OCTOBER, 1962 • 35¢

AMERICAN Cinematographer

Magazine Of Motion Picture Photography And Production Techniques

IN THIS ISSUE

FILMING THE 'DOBIE GILLIS' TV SHOW —Pg. 600

FIGHTING FIRE WITH FILM —Pg. 602

INGMAR BERGMAN'S CINEMATOGRAPHER —Pg. 613

G-E's NEW PORTABLE CINEMA LIGHT —Pg. 608

16mm LECTURE FILMING IN JAPAN —Pg. 615

DUPLICATING KODACHROME II —Pg. 610

FILMING 'ADVENTURES OF A YOUNG MAN' —Pg. 604

TECHNICAL QUESTIONS & ANSWERS • BEHIND THE CAMERAS
WHAT'S NEW IN EQUIPMENT, ACCESSORIES, SERVICES • INDUSTRY NEWS

A NATIONAL INSTITUTION

W. J. GERMAN, Inc.

BIGGEST AND OLDEST AGENCY FOR

Sales And Distribution

EASTMAN PROFESSIONAL MOTION PICTURE FILMS

Negatives Positives

Color Black - And - White

Prompt Service — Everywhere

Fort Lee, New Jersey

Chicago, Illinois

Hollywood, California

S.O.S. EDIOLA® ACTION VIEWER

PROFESSIONAL 16mm MODEL

Easy to Look at

S O S Ediola M-16 Jr Action Viewer	$ 99.50
S.O.S. Ediolo M-16 Sr. Action Viewer with pressure plate and double pad rollers (left to right)	$135.00
S O S. Ediola MRL-16 Sr Action Viewer with pressure plate and double pad rollers (right to left)	$195.00
S O S Ediola Pro-35 for 35mm	$395.00
Model MA Pro-8 Viewer for 8mm.	$ 89.50

Write for illustrated brochure

S.O.S. PHOTO-CINE-OPTICS, INC.

formerly S.O.S. CINEMA SUPPLY CORP.

602 W 52nd St, N.Y. 19, N Y —Plaza 7-0440—Telegram "FAX, N Y."

Western Branch: 4331 Hollywood Blvd, Hollywood 28, Calif — Phone 467 2124

VICAUDIO

SELLS, TRAINS, TEACHES WITH THE EXCITEMENT OF FULL-COLOR 8mm SOUND FILMS!

This is the new VICAUDIO COMPACT SOUND 8 CARRY ALL PROJECTOR... the remarkable lightweight rear screen projector in an atteche case! With VICAUDIO, new professional quality 8mm sound movies open a new dimension in audio-visual communication. Magnetic sound with its flexibility... 8mm film with its amazing production sevings...loop-loading with its repeet-message possibilities...all combine in the VICAUDIO. Mey we send you the full story on 8mm sound and the equipment which brings it to reality?

VICOM, INC.

A SUBSIDIARY OF ELGEET OPTICAL COMPANY
309 CHILO STREET, ROCNESTER 6, NEW YORK

AMERICAN

Cinematographer

INTERNATIONAL JOURNAL OF MOTION PICTURE PHOTOGRAPHY AND PRODUCTION TECHNIQUES

ARTHUR E. GAVIN, Edito.

MARION HUTCHINS, Editorial Assistant

CONTRIBUTORS Herb A Lightman, Joseph V Mascelli, Clifford V Harrington, Joseph Henry, Frederick Foster Technical Advisor, Dr Norwood L. Simmons

OFFICES—Editorial and Business 1782 No Orange Drive, Hollywood 28, Calif. Telephone HOllywood 7-2135

EASTERN ADVERTISING REPRESENTATIVE Paul Gilbert, 489 Fifth Avenue, New York 17, N Y Telephone AX E-5641

October, 1962 Vol. 43, No. 10

CONTENTS

FEATURE ARTICLES

FILMING THE "DOGIE GILLIS" SHOW — Frederick Foster — 600

FIGHTING FIRE WITH FILM — Darrin Scot — 602

TWO-CONTINENT ASSIGNMENT — Herb A Lightman — 604

G-E INTRODUCES NEW PORTACLE CINEMA LIGHT — 606

DUPLICATING KODACHROME II — 610

PHOTOGRAPHING THE FILMS OF INGMAR BERGMAN — Sven Nykvist — 613

PHOTOGRAPHING A 16MM LECTURE FILM IN JAPAN — C V Harrington — 615

DEPARTMENTS

INDUSTRY NEWS — 582

WHAT'S NEW IN EQUIPMENT, ACCESSORIES, SERVICES — 588

BEHIND THE CAMERAS — Marian Hutchins — 592

TECHNICAL QUESTIONS & ANSWERS — 598

FLASHBACKS TO YESTERYEAR (1914—Arthur Edeson, ASC) — 618

AMERICAN CINEMATOGRAPHER, established 1920, is published monthly by the A. S. C. Agency, Inc., 1782 N. Orange Dr., Hollywood 28, Calif. SUBSCRIPTIONS: United States and Canada, $4.00 per year; Foreign, including Pan American Union, $5.00 per year. Single copies 35 cents, Back numbers 45 cents; foreign single copies, 45 cents; back numbers, 85 cents. Advertising rates on application. Copyright 1962 by A. S. C. Agency, Inc. Second-class postage paid at Los Angeles, California.

WHATEVER THE PICTURE—DEPEND ON DU PONT

Distinguished directors of photography and cinematographers depend on Du Pont SUPERIOR* 2 and 4 Films and the service that comes with them. One may need the latitude of the SUPERIOR Films for shooting a documentary in the chance weather of an English autumn. Another may want the consistent quality of the SUPERIOR Films as he shoots a television series.

Whatever their assignment, you will find these men at the top of their profession—with years of award-winning experience. Their repeated success has proved to them that Du Pont SUPERIOR Films give first-class results—they depend on it!

You, too, can get Du Pont Films—and full technical data on them—from any of the sales offices shown listed at the right. Or write to E. I. du Pont de Nemours & Co. (Inc.), Photo Products Department N-2430A, Wilmington 98, Delaware

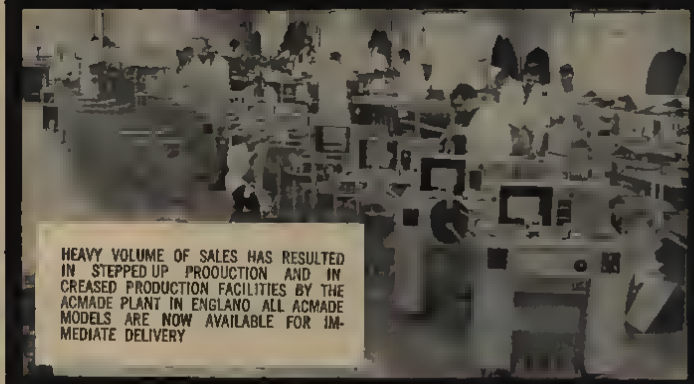
*Du Pont's registered trademark for its photographic film

ATLANTA 14 GA 1737 Ellsworth Ind Dr., N W
CHICAGO 45 ILL. 4560 Tenby Ave Edgebrook Station
CLEVELAND 16, OHIO, 20575 Center Ridge Road
CLIFTON N.J. 380 Allwood Rd Allwood Station (New York)
DALLAS 7 TEXAS, 1628 Oak Lawn Ave
HOLLYWOOD 38 CALIF 7051 Santa Monica Blvd
WALTHAM 54 MASS 45 4th Ave (Boston)
WYNNEWOOD PA 308 E Lancaster Ave. (Phila.)
EXPORT Nemours Bldg Wilmington 98, Del
IN CANADA, Du Pont of Canada Ltd., Toronto

DU PONT

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

NOW—IMMEDIATE DELIVERY on ACMADE



HEAVY VOLUME OF SALES HAS RESULTED IN STEPPED UP PRODUCTION AND INCREASED PRODUCTION FACILITIES BY THE ACMADE PLANT IN ENGLAND ALL ACMADE MODELS ARE NOW AVAILABLE FOR IMMEDIATE DELIVERY

FLORMAN & BABB, Inc.

Proudly Announce
The Appointment of

GORDON ENTERPRISES

5362 N Cahuenga, North Hollywood Cal
as Exclusive Western Distributor.

BEHREND CINE CORP.

1E1 E Grand Ave., Chicago 11, Ill
as Exclusive Mid-Western Distributor

These outstanding dealers will carry the complete Acmade line for demonstration and are fully equipped to supply complete maintenance and service

NEW FROM ACMADE

ACMADE TUNGSTEN PRECISION SPLICER

This moderately priced splicer incorporates new precision features which insure absolute accuracy and safety in splicing. Three models are available: Model 16 16mm., Model 35 35mm., Model 35 16 combination 35mm. and 16mm.

1 The combination 35mm 16mm Model features retract table 35mm and 16mm pins. This permits center placement of the 16mm pins for A and B roll splicing.

4 Specially designed right hand pressure block permits easy and accurate back scraping on all models.

5 Tempered steel springs provide perfect pressure positioning film firmly during scraping and splicing processes.

2 Stainless steel blocks are precision fitted with Tungsten Carbide inserts for cutting. Cutting edges will remain sharp and last forever.

3 Attached scraper adjustable for depth — fitting jig incorporated on splicer base.

6 Thermostatically controlled heater maintains constant 100° temperature.

Model 16 — $299

Model 35 — $299

Model 35-16 — $399

ACMADE MARK II EDITING TABLE

Makes Editing Easy!

$2975

f.o.b. New York

Operation of this simple, efficient editing machine can be mastered in minutes. Continuous (non intermittent) movement provides absolute protection for your film in silent centrols and declutching allows up to 50% greater speed for pic & sound editing. All combinations of 16mm and/or 35mm channels, plus magnetic and optical sound available.

WRITE FOR DETAILED BROCHURE

Acmade Foot-Operated Splicer with Tungsten Tipped Blades

Combination
16mm-35mm
Model

$1495

This splicer is constructed as is usual with ACMADE products, of the finest materials and workmanship. All castings are of the best quality and the top body and cutter arms are seasoned to prevent distortion after machining. The machining is carried out to limits of ± .0005" in order that the cutter blades shall close in a dead parallel manner. The cutter blades are made from stainless steel with Tungsten Carbide inserts and afterwards ground, lapped and polished to a limit of ± .0002" thickness and the cutting edges relieved by 1°. The Tungsten Carbide inserts will have indefinite life and will not require sharpening as with other types. A heater unit is installed in the top body of the machine. The top light in a wall glass fitting is attached to the body of the machine and also an inspection light in the waste bin together with cement bottle and brush. A scraper block is supplied and also a scraper block setting jig and support shelf rubber covered. The whole machine is finished in first quality grey hammer and all metal parts other than cutter blades are hard flash chromed.

Serving the World's Finest Film Makers

FLORMAN & BABB, Inc.

68 W. 45th St., New York 36, N. Y. MUrray Hill 2-2928

NOW A PROFESSIONAL PHOTO LIGHT THAT FITS THE PALM OF YOUR HAND... SO SIMPLE ANYONE CAN USE IT

COOLING VENTS for instant escape of heat.
ADJUSTABLE HEAD tilts for bounce lighting, is calibrated 30° below and 90° above horizontal. Control arm makes it easy to tilt and lock head at any angle.
SILICON RECTIFIER LIGHT SWITCH has dimmer control for modeling and setup lighting levels, is conveniently located on handle for instant light control.
ORIGINAL EQUIPMENT ALSO INCLUDES:
FLOOD LENS Dual-purpose lens affords choice of 110° x 48° or 60° x 54° beam for broader light coverage of subject area.
PORTRAIT LENS Made of specially tempered glass for close-up work. Softens light and reduces contrast.
BARN DOORS ruggedized aluminum construction for easy adjustment and placement of light.
12-FOOT CORD
UNIVERSAL BRACKET fits all cameras. Special bi-position mounting hole allows unit to be located at the side or 30° to the rear of camera.

SUN GUN PROFESSIONAL PHOTO LIGHT

Optional accessories quickly adapt SUN GUN Professional Photo Light for every indoor lighting need

Accessory holder Adapts SUN GUN Professional Photo Light to accept the wide variety of specialized optional accessories

Daylight filter Corrects color temperature of basic 3400°K lamp to permit use with daylight type color film. Eliminates need for conversion filters on camera, retaining full efficiency of expensive camera lenses.

Snoots Provide a finely controlled beam for spot high lighting of small areas. Two sizes—large, and special optical "Sniper Snoot."

Super Spread Lens. Spreads beam to match field of extra wide angle camera lenses

Large Barn Doors Permit horizontal control of light beam to conform to specific area lighting requirements or to keep light out of camera lens.

Special 3200°K filter Converts color temperature of light for use with Type B color film

Diffusing Filter Spun-glass scrim provides soft, even diffused light for close up work. Includes removable spread lens

Carrying case For convenient carrying of SUN GUN and accessory lenses

Here's the finest in professional photo lighting. Professional photographers across the country are using it to shoot their commercial productions—both movies and stills.

This SUN GUN® Professional Photo Light takes the place of studio lights 10 times bigger, 10 times heavier, 10 times more expensive. It produces 5000 watts of exposure at only 1000 watts' electrical cost—does the work of much studio lighting equipment easier and better.

Good? So good it won a 1962 Academy Award. Want to know more about this new SUN GUN Professional Photo Light? Ask your photo dealer—or mail the coupon below.

MAIL THIS COUPON TODAY FOR MORE INFORMATION

Sylvania Lighting Products
Division of Sylvania Electric Products Inc.
730 Third Avenue, New York 17, N.Y.

Please send me free technical information on the new SUN GUN Professional Photo Light

Name_____

Address_____

City_____ Zone____ State_____

SYLVANIA

SUBSIDIARY OF

GENERAL TELEPHONE & ELECTRONICS

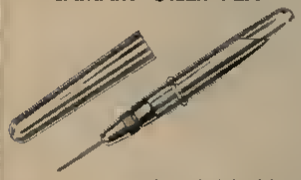
Camera Mart

NEW DESIGN
FILM BIN
WITH RACK

- Rectangular Construction
- Fits easily into corners
- Vulcanized fiber with reinforced metal frame
- Complete Bin Rack linen bag

With skids $45 25
With wheels $51 75

CAMART OILER PEN



Lubristyle precision oiler—ideal for lubricating equipment hard to get at $1.69.

In quantities of six, $1 39 each

CAMART DUAL SOUND
EDITOR MODEL SB111

Edit single and double system 16mm or 35mm optical sound Edit single system magnestripe or double system magnetic sound Use with any 16mm motion picture viewer to obtain perfect lip-sync matching of picture to track Works from left to right or right to left

Dual Editor (without viewer) Optical model $195.00
Zeiss Moviscop Viewer .. 96.00
Special Editor-Viewer Comb 269 50

the CAMERA MART inc.
1845 BROADWAY
NEW YORK 23, N. Y.
Cable Cameramart

INDUSTRY NEWS

News briefs of industry activities, products and progress

Recognition Asked For Industry Cinematographers

Unless Hollywood begins doing more to honor its own it is going to waste a great opportunity for continuing to sell itself as the entertainment film capitol of the world according to John W Servies President of the Society of Motion Picture and Television Engineers

In a letter to Claire R Grimes, Executive Secretary of the Hollywood Chamber of Commerce, Servies pointed out that the artistic and technological contributions of the great motion picture cameramen are so vital, that Directors of Photography have been chosen for a particular motion picture just as carefully as actors or directors —so great is the importance of the photography to the artistic success of the picture

It seems incongruous, Servies continued, that the great motion picture cameramen have been accorded world wide acclaim by the entertainment industry, but have been almost ignored by Hollywood the town they helped to create Only one Director of Photography, Pev Harley, is recognized on Hollywood's "Walk of Fame."

Speaking for the Society, Servies said he was pleased that Producer Leslie Stevens recently urged the Hollywood Chamber of Commerce to add the names of great cameramen, past and present, to its "Walk of Fame" Hollywood is still the technical and the artistic capitol of the film world. Servies continued The Society of Motion Picture and Television Engineers therefore urges that the Hollywood Chamber of Commerce follow Mr Stevens suggestion and honor those Directors of Photography who have had and continue to have so much to do with Hollywood's glittering reputation he added

•

New Arriflex 16mm Camera

Paul Klingenstein, President of Arriflex Corporation of America, was a Hollywood visitor last month He brought important news about a completely new Arriflex 16mm camera that will make its first appearance at the SMPTE Convention in Chicago this month, and will be available for delivery in the U.S. shortly thereafter new camera incorporates gear-driven magazines in 200, 400 and 1200-foot capacities.

•

Calvin Debuts New 16mm Color Processor

Calvin Productions, Inc Kansas City, Mo has completed installation and test runs of its new 16mm color film processor for Ektachrome Commercial and ER films Two factors make the new processing service it renders unique, according to Calvin engineers The machine will provide facilities for processing original Ektachrome Commercial and Ektachrome ER films and consequently faster service on color workprints and print orders

Designed with the basic idea of insuring complete safety for customers' films, an electrical monitoring network protects against failures in such components as the exposure printer, backing removal wheel motors, takeup motors and main drive motor Incorporated are many new materials and by-products of space technology such as gold electrical contact points, punch-type connectors, and modular components In addition, unique tracing sys-

Continued on Page 584

WHEN above photo appeared in our August issue omitted from caption was this vital fact the early day Moy motion picture camera being shown to ASC members at Society's June meeting by Arthur Miller, was donated to ASC's Movie Museum by Arthur Fierman (right), Pres of Fierman & Babb Inc and one of the industry's nicest guys Our apology to Mr Fierman for the editorial boo boo We publicly thank him for his valuable contribution to the American Society of Cinematographer's growing Movie Museum, located in the Society's clubhouse

RACING THE CLOCK?

Next time you're in a bind for time, try General. We don't like crash jobs any better than you do But even our normal pace is swift We have the equipment, the experience, and the *desire* to give you the best service you've ever had.

We work for our customers 24 hours a day.

Send for our schedules and price lists on professional film-processing services — black and white or color, front-end work or release prints.

We're only hours away, by jet, from any U.S. metropolitan center.

GENERAL
FILM LABORATORIES
A DIVISION OF PACIFIC INDUSTRIES, INC

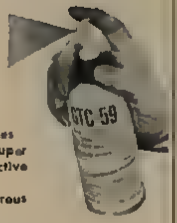
1546 Argyle, Hollywood 28, California / HOllywood 2-6171 / central division / 1828 Walnut St., Kansas City 8, Mo. / GRand 1-0044

Camera Mart

Makes Glass Smoother Than Glass!

NEW GTC-59

GLASS TREATMENT COMPOUND



- Water repellent
- Cleans & degreases
- Leaves a laugh super smooth & protective hard surface
- Imparts a lustrous glaze
- Anti-fog Anti-static
- Stays dust & dirt free longer

GTC-59 is a glass treatment compound designed for anti-static smear proof cleaning & polishing. It creates a high luster water repellent protective coating on all types of smooth, non-porous materials such as plastics, glass, chrome, etc.

Excellent for lenses, optics, reflectors, condensers, records, lights

6 oz. with Spray Applicator $1.65

ECCO MODEL D SPEEDROLL APPLICATOR

Cleans conditions & lubricates your film in one easy operation. Non-inflammable eliminates working absolutely safe

Ecco Model D Applicator	$33.00
Ecco #1500 cleaning fluid per gal	$9.00
Ecco #2600 Negative cleaning Fluid, per gal	$7.00

CAMART CORE DISPENSER

Keeps film cores handy at all times. Attaches easily to work table or wall. Easy to remove, easy to fill. All aluminum construction

Sizes	
Length 16"	10.00
Length 24"	12.00
Length 36"	16.00

Aluminum Dispenser for Plastic Reels

50'	16.50
100	18.50

the CAMERA MART inc.
1845 BROADWAY
NEW YORK 23, N. Y.
Cable: Camermart

INDUSTRY NEWS

Continued from Page 582

tems have been developed that will facilitate locating quickly any electrical trouble. The exposure light is a double filament bulb, if one filament burns out, the other cuts in within a tenth of a second. A signal to the operator indicates that he is running on the back-up filament. This and much more, Calvin engineers claim, will enable the company to establish highest possible color quality and to maintain this quality consistently during all processing runs.

•

Color Telecasts Originating on Film

Motion picture film continues as the major production medium of the three TV networks. And playing a bigger role this season is color. More than twice as many prime time (7:30-11 P.M.) network television shows will be on color motion picture film during the 1962-63 season than last year, a survey of ABC, CBS and NBC has disclosed.

NBC, which had only one color film production ("Bonanza") on the air in the Fall of 1961, increased to four in the Spring of 1962. Starting this fall, NBC has seven regular filmed color series scheduled. In addition, "Saturday Night at the Movies" and "David Brinkley's Journal" will make liberal use of color footage. At the same time, ABC will make its color debut with three half-hour animated shows. CBS, however, has no color shows scheduled and none planned for the immediate future.

"Film has become an increasingly important tool in network television, offering tremendous scope and flexibility to the kind of programming that can be done," an NBC spokesman pointed out. "We at NBC believe the trend to color film for television is a natural and logical step forward. Each year our total color hours increase to meet advertiser and viewer demands," he added.

In addition to its regular color series, NBC has tentatively scheduled "Color Nights," when one night's black-and-white programs will be broadcast in color on a one-shot basis. One of these, "International Showtime," will be shot on 16mm color film, instead of the black-and-white tape formerly used. Most film productions, both black-and-white and color, are shot originally in 35mm.

Two of ABC's three color shows were telecast in black-and-white last season. They are the "Flintstones" and "Beany and Cecil." The newcomer is "The Jetsons."

In all, about 75 percent of prime time shows will be on motion picture film this season. That's about the same number as last year, though all three networks are introducing several new shows.

•

Walter Castle Dies

Walter Castle, veteran director of photography and a member of the American Society of Cinematographers, died September 26, in Los Angeles. He had been hospitalized following a stroke. For the past two years he had directed the photography for most of the "Bonanza" TV films at Paramount studios. Previously he had worked at the Walt Disney and 20th Century-Fox studios.

•

Charles G. Clarke, ASC, Readying Technical Book

Charles G. Clarke, until recently a director of photography at 20th Century-Fox studios, is presently polishing the final draft of his book on professional motion picture photography. No publication date has been set as yet, according to Clarke, who has conducted classes in cinematography at the University of California at Los Angeles.

•

Hollywood Movie Museum Wants Old Film Photos

Vintage photos of production scenes, off-stage activities and early-day movie personalities are wanted by the Hollywood Museum Associates for Hollywood's Motion Picture and Television Museum soon to be erected opposite famed Hollywood Bowl. Persons in or out of the industry having such photos for donation to the Museum archives may contact Harry Gillette of the Museum's Stills Committee, 8833 Sunset Blvd., Los Angeles 16, Calif.

•

NEWS BRIEFS—*DuPont Photo Products* has opened new office at 380 Allwood Rd., Clifton, N. J., headed by *Fenner C. Headley*. . . *Jim Sachs* and *Irving Joslowitz*, formerly with Camera Equip. Co., have joined staff of The Camera Mart. . . Inventor-consultant, *David Pollan*, has joined the Reevesound Company as Chief Engineer. . . *William P. Lear, Jr.*, has been appointed European factory rep for Magnasync Corp.

•

Guffey Shooting In Japan

Cinematographer Burnett Guffey,

Continued on Page 634

WHY BUY HALF A PROCESSOR WHEN A WHOLE ONE COSTS YOU LESS?

ALLEN REVERSAL PROCESSORS
ARE COMPLETE, DOWN TO THE LAST ACCESSORY

Features include:

- ELECTRONICALLY CONTROLLED INFINITELY VARIABLE **SPEEDS UP TO 60 FEET PER MINUTE**
- AUTOMATIC TEMPERATURE CONTROL
- DAYLIGHT LOADING
- COMPLETELY AUTOMATIC OPERATION
- HEAT AND REFRIGERATION
- CHEMICAL RECIRCULATION
- COMPLETE PLUMBING
- RUGGED CONSTRUCTION
- LOW MAINTENANCE

When you compare the prices of the **completely self-contained ALLEN PROCESSORS** against other makes (those with "hidden extras"), you will be amazed at the money you can save. For full information on the model "700" (pictured) or other models available, call or write.

For immediate delivery call collect.

• LEASE PLANS AVAILABLE

WHERE THE PROS GO...

CAMERA EQUIPMENT CO., INC.

FIRST IN SALES, SERVICE, RENTALS AND REPAIRS

SUBSIDIARY OF CECO INDUSTRIES, INC

NEW YORK N Y
315 West 43rd St • JUdson 6-1420

MIALEAN FLONIOA
51 East 10th Ave • TUxedo 8-4604

HOLLYWOOD, CALIFORNIA
6510 Santa Monica Blvd • NOllywood 9-8321

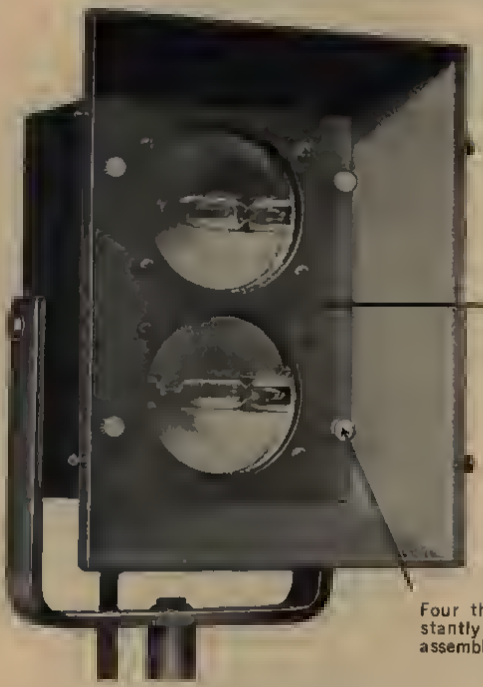
DEALERSHIP INQUIRIES INVITED

CAMERA EQUIPMENT CO INC

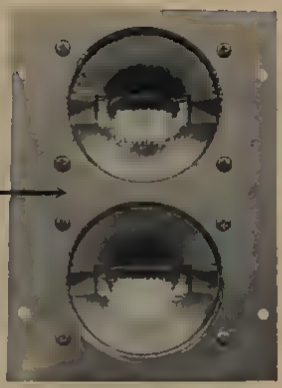
NOVATECH ANNOUNCES

TYPE NTC NOVA TWIN

...with interchangeable reflector assemblies



Instantly interchangeable reflector assemblies



3 types of reflector assemblies provide lighting quality control

Four thumb screws instantly release reflector assembly from housing

NOVA TWIN LIGHTING SYSTEM PERMITS UNEQUALLED FLEXIBILITY:

Now for the first time with a single lighting unit you can control the beam angle and specularity to match subject requirements

Reflector assemblies are available with type 1, 2 or 3 reflectors which provide the following performance *

Type 1 (medium beam)		
Intensity at 10 feet	720 foot candles with 3400K Lamps	
	630 foot candles with 3200K Lamps	
Type 2 (medium broad beam)		
Intensity at 10 feet	525 foot candles with 3400K Lamps	
	425 foot candles with 3200K Lamps	
Type 3 (broad beam)		
Intensity at 10 feet	460 foot candles with 3400K Lamps	
	360 foot candles with 3200K Lamps	

*Measurements made with 120V at lamp terminals

Snap on terminals provide instant connect or disconnect of electrical wiring.

Type NT Nova Twins may be converted to the NTC type for $9.95

Write for Technical Bulletin
NOVA TWIN *A New Light On The Subject*

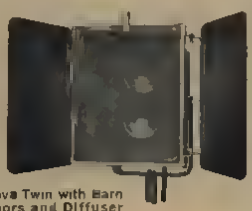
NOVATECH CORPORATION
282 SEVENTH AVENUE • NEW YORK 1 N Y

A PORTABLE STUDIO LIGHTING SYSTEM

The NOVA TWIN KIT consists of 2 Nova Twins (NT or NTC), complete with quartz iodide lamps, 2 Nova Stands two 25 foot extension cords, and a Sturdy Carrying Case Total weight, under 30 lbs

ACCESSORIES

- Reflector Assemblies (For NTC Series)
- Barn Doors and Diffuser Frame Assembly
- Diffusers
- Nova Stands



Nova Twin with Barn Doors and Diffuser

Exclusive U S Distributor
PICTRONICS CORPORATION
236 E 46 ST , NEW YORK 17, N Y.

•

For Export except United Kingdom
ROCKE INTERNATIONAL CORP.
13 E 40 St , New York 16, N Y.

•

Exclusive United Kingdom Distributor
MOTIVATION LTD.
20 PICCADILLY, LONDON, W 1.

Announcing

the new BACH Auricon® "PRO-600 SPECIAL"

...a lightweight companion to the popular "PRO-600"

Auricon proudly presents the new "PRO-600 Special," a lightweight companion to the famous "Pro-600," now in use by Cameramen all over the world!

The "Pro-600 Special," like other precision Cameras in the Auricon line, is a superb professional picture-taking instrument, Self-Blimped and silent in operation At a small extra cost for built-in Sound Equipment, it can even record Optical or Filmagnetic Single-System sound The "Pro-600 Special" being driven by a true, synchronous motor is ideal for exacting Double-System sound recording as well

While the "Pro-600" is popular for Studio and occasional Newsreel operation, the new "Pro-600 Special" with its minimum weight and easy portability, is the perfect answer for heavy duty Newsreel and Documentary filming

Write for free Pro 600 Special Literature and prices

24 POUNDS

36 POUNDS

PRO 600 SPECIAL FOR NEWSREEL & DOCUMENTARY FILMING MODEL CM 77

PRO 600 STUDIO CAMERA MODEL CM 75

HEART OF THE NEW "PRO-600 SPECIAL"

The secret behind the light weight of the new "Pro 600 Special" is this newly developed Auricon Super Silent Synchronous Soundrive This precision motor has taken 6 years to perfect and is designed to meet the most exacting sound recording requirements

NEW AURICON ALL-TRANSISTORIZED FILMAGNETIC

New "all weather" Amplifier Model MA 11, can operate at the freezing South Pole or the broiling Sahara Desert, without affecting its temperature compensated 14 transistor circuitry or frequency response of 50 to 12 000 cycles Permanent internal rechargeable battery for complete portability, or A C. operated when plugged into 110 V. outlet Weighs only 5 pounds.

GUARANTEE

All Auricon Equipment is sold with a 30-day money back Guarantee and a 1 year Service Warranty. You must be satisfied!

BACH Auricon®

THE AURICON LINE OF 16MM SOUND-ON-FILM CAMERAS

CINE VOICE II
100 ft. Runs 2½ min

AURICON PRO-600
600 ft. Runs 16½ min

AURICON SUPER 1200
1200 ft. Runs 33 min

AURICON FILMAGNETIC AND SOUNDRIVE ARE TRADEMARKS OF BACH AURICON, INC

BACH AURICON, Inc.
6902 Romaine Street, Hollywood 38, California
HOLLYWOOD 2-0231

ELGEET
ZOOM
NAVITAR

Elgeet offers Vidicon television cameras and 16mm cameras the first Zoom Navi tar, a manually controlled 4.1 zoom with a 20mm to 80mm range—f 1 8! This new lens achievement is optically compen sated to hold focus through the entire zoom action. Fourteen elements—covers Vidicon format—resolves 600 lines—linear zoom action by ring—list price. $400. For information, write for Catalog 2080 CZ18.

Elgeet OPTICAL COMPANY, INC
303 Child St., Rochester 11, N Y.

WHAT'S NEW

IN EQUIPMENT, ACCESSORIES, SERVICES

Procass Scraan

S O.S Photo-Cine-Optics, Inc. New York, N Y., is exclusive U.S. distribu tor of the Alekan Gerard process screen, described in article in our Jnly issue. Screen offers simple system of front-projection composite photography at low cost Tbe patented high-reflec-tance beaded screen material comes in 72" widths, can be cemented to ply wood or similar flat surfaces Price is $2.50 per square foot Special "beam splitter" mirror required for system is also available in 10" square frame for $15.00 Typical shot achieved with system is pictured above.

16/35 Neg-Pos Spray Processor

A new combination 16/35mm nega tive-positive spray processor, Model S 150R, announced by Filmline Cor-poration, Milford, Conn., develops pos itive at 9.000 f p h. and negative at 6,000 f p h Among features are 5-minute processing cycle, two-way tem-perature control, replenishment flow meters, variable speed drives, thermom-eter, dual air squegee, compressor, torque-motor takeup, and silicon apph-cator. Brochure is available

Equipment Rentals

Mole-Richardson European Service, with offices in five different countries, now rents cameras, prop equipment, dollies cranes, generators and sound equipment to production companies shooting overseas. Services are avail able in England at Chase Road, Lon-don 10; in France at 28 28 bis Rue Marcelline-Berthelot, Montrouge-Seine, in Italy at Vio del Velodromo 68 74, Rome, in Germany at Hofangerstrasse 78, Munich, and in Spain at Alcala 32, Madrid 11

Conversion Filter

A daylight conversion filter for use with ColorTran lamps to permit their use outdoors for fill light is announced by ColorTran Industries, 630 So Flow-er St., Burbank, Calif Made of tem-pered Pyrex glass and mounted in metal frames, filters are available in two sizes. Filters for the Super-Eighty ColorTran lists for $39 95: for the CineKing, Super-Kicker, and Super-60, $19 50 The filters are designed to slide easily into position on the respec tive lamp housings without use of tools

Continued on Page 591

in the east . . . it's

MOVIELAB

for color* and black & white

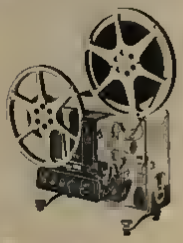
MOVIELAB FILM LABORATORIES
MOVIELAB BUILDING, 619 W. 54th ST.
NEW YORK 19, N.Y. JUDSON 6-0360

* developing color negatives • additive color printing • reduction printing including A & B • color slide film processing • blowups • internegatives • Kodachrome scene-to-scene color balanced printing • Ektachrome developing and printing • registration printing • plus complete black and white facilities including cutting rooms, storage rooms and the finest screening facilities in the east.

Bolex H-16 Rex: World's most versatile 16mm camera.

It's no wonder so many industrial and profas sional photographers all over the world have chosen the H-16 Rex It's lightweight, compact, rugged and dependable, yet has all the features needed to produce top-quality films and adapt to almost every cinematographic purpose. reflex viewing and focusing, variabla shutter, 3 lens turret, full film rewind, and many more You write the script. training films, documentaries, medical work, nature studies, research, animation, time lapse, micro-, macro-—the Rex takes them all in stride And it performs beautifully under even the most severe climatic conditions. Take a look at the Rex at your Bolex dealer's soon, and ask him for a catalog of all the fine prime and zoom lenses and the variety of accessories that make this camera the only one you need for all assignments. $450 with Lytar 25mm f/1.8 lens.

Bolex S-221: Perfect running mate for the H-16 Rex



High Fidelity sound quality The narrow-gap magnetic sound head and an adjustable optical sound light beam which can be focused accurately onto the sound track ensure optimum reproduction of music, sound effects, and narration from a magnetic or optical track. Two perfectly balanced flywheels provide absolutely constant film movement. And a high-fidelity amplifier with a 15-watt output makes the S-221 ideal for use in large auditoriums as well as in smaller rooms.

The versatility of a sound studio. The S-221 has separate inputs and volume controls for microphone and phonograph to permit mixing of music, sound effects, and narration with full control by means of earphones. You can superimpose narration and sound effects over background music, combine sound tracks with live narration and even use the projector as a PA system.

Perfect picture quality. Three fast lenses in 35 (f/1.3), 50 (f/1.3) and 75mm (f/1.6) focal lengths are available for the S-221. Each is fully corrected to guarantee perfect color, contrast, freedom from distortion, and corner-to-corner sharpness. 750- or 1,000-watt projection lamps, together with the S-221's variable shutter, produce superb brilliance.

Convenient to use. Threading the S-221 is simplified by unique sprocket guides and a lens holder that swings out a full 180°. The reel arms swing into position easily and you don't need to reverse the position of the reels to rewind. All projector controls are on an illuminated panel at one side of the machine.

Swiss-precision construction. The finished projector, the result of unhurried craftsmanship, will give many years of prime performance. S-221—with standard f/1.3 50mm lens and 6" speaker, $1,250. S-211—(optical sound only) with f/1.3 lens and 8" speaker, $985 (prices include F.E.T.) For literature and the name of your Bolex dealer, write:

PAILLARD INCORPORATED, 100 SIXTH AVENUE, NEW YORK 13, N.Y.
IN CANADA: GARLICK FILMS LTD., TORONTO

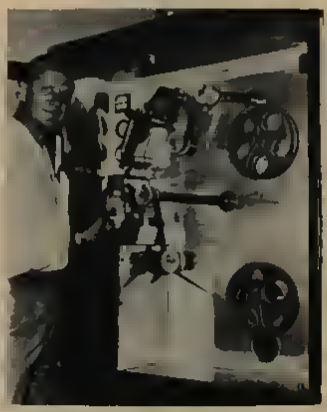
BOLEX

WHAT'S NEW?

Continued from Page 533

Shoulder-Pod

A unique shoulder tripod for lightweight 16mm and 35mm cameras, is new German import being marketed by Cine 60, 630 Ninth Ave., New York 36, N.Y. Device provides solid support for camera, leaving both hands of operator free for handling camera and related accessories. List price is $89.00.



Film Cleaning Service

With the installation of Lipsner-Smith film cleaning equipment, Cinema Research Corp., 716 No. LaBrea Ave., Hollywood 38, Calif., adds to its many services available to makers of motion pictures. Machine cleans both 35mm and 16mm films with complete safety to film and emulsion surfaces. The new film cleaning service is being made available to producers of industrial films, TV commercials, and those in the professional 16mm field, and is applicable to color and B&W films.

16mm Underwater Camera

A compact, completely self contained 16mm motion picture camera designed specifically for underwater use, is announced by D. B. Milliken Co., 131 No. Fifth Avenue, Arcadia, Calif. The Model DBM-9 camera requires no separate underwater housing, since its own case is capable of maintaining water tight integrity to a depth of 400 feet. Camera drive is powered by integral 28 volt DC rechargeable nickel cadmium battery pack. There is also a water tight connector for 115 volt AC remote operation, timing-lamp generator and other inputs. Filming speeds range from 4 to 400 fps with proper 4-speed motors. Camera case is fiberglass, with all external parts stainless steel. High resolution of pictures is assured by true intermittent film transport mechanism with register pin. Accessories available include internal heater, timing lamps and shutter correlation pulse generator.

Blimp Conversion Kit

A conversion kit for modifying the Arriflex-16 camera blimp is announced by Arriflex Corporation of America, 257 Park Ave. South, New York 10, N.Y. Kit permits mounting the 70mm Angenieux Varifocal lens on the Arri-16 so it may be focused and zoomed by remote control from outside the blimp. Follow focus with regular lenses on the camera requires only interchanging them with the zoom lens.

The conventional through-the-lens viewing feature of the Arriflex is extended and enhanced, with viewing, scene composition, focusing and zooming all being done during sync-sound shooting. Installation of kit must be done by competent technicians, and this service is offered through all Franchised Arriflex dealers. ■

BEHIND THE CAMERAS

WHAT THE INDUSTRY'S CAMERAMEN WERE SHOOTING LAST MONTH

BY MARION HUGHINS

NOTE: Asterisks following titles indicate television film productions.

AMERICAN INTERNATIONAL

FLOYD CROSBY, ASC, "The Raven" (J H Nicholson Samuel Z. Arkoff Prod., P'Vision & Color) with Vincent Price and Peter Lorre Roger Corman producer director

RILTMORE STUDIOS — N.Y.

JACK PRIESTLY, "Naked City"* (Screen Gems)

BIOGRAPH STUDIOS — New York

GEORGE STOETZEL, ASC, "Car 54 Where Are You?"*,

CASCADE STUDIOS

HENRY FREULICH, ASC, Commercials*.

ROY SEAWRIGHT, Commercials*

CBS—N.Y.

CHARLES MACK, LEO ROSSI, JOHN CLEMENTS, "CBS Reports"*

COLUMBIA STUDIOS

MICHAEL KELBER, "In the French Style" (Casanna Prod., shooting in Paris) with Jean Seberg Robert Parrish, director

ROBERT WYCOFF, "Dennis the Menace"*

PHILIP TANNURA, ASC, "Naked City"*

CHARLES LAWTON, ASC, Commercials*

GEORGE FOLSEY, ASC., Commercials*

PHILIP LATHROP, ASC, "Postmark *" (pilot)

ROBERT KRASKER, "The Running Man" (Peet Prods. Ltd., P'Vision & Color, shooting in Spain) with Laurence Harvey and Lee Remick Carol Reed, producer director.

CHRISTOPHER CHALLIS, "The Victors" (High road Prod., P'Vision, shooting in England) with Vincent Edwards and Christine Kaufmann Carl Foreman, producer director

IRVING LIPPMAN, "Route 66"*.

CHARLES WELBORN, "Empire"*,

RICHARD RAWLINGS, "Higgins"*

FRED GATELY, ASC, "Hazel"*

GERT ANDERSEN, ASC, "Donna Reed Show"*

ALAN HUME, 'The Iron Maiden" (GHW Prod., shooting in England) with Michael Craig and Anne Heim. Gerald Thomas, director

GORDON AVIL, ASC, "Mr. Smith Goes to Washington", Commercials*

JOSEPH BIROC, ASC "Bye Bye Birdie" (P'Vision, Eastman color) with Janet Leigh and Dick Van Dyke George Sidney, director.

DESILU—Culver City

LOTHROP WORTH, ASC, "The Real McCoy's"*

CHARLES STRAUMER, "The Untouchables"*.

DESILU—Cahuenga Studio

ROBERT deGRASSE, ASC, 'The Danny Thomas Show"*, 'Dick VanDyke Show"*.

MURRY GERTSMAN, ASC, "I'm Dickens—He's Fenster"*

HENRY CRONJAGER, "The Joey Bishop Show"*

SID HICKOX ASC, "The Andy Griffith Show"*.

DESILU—Gower

GLEN MacWILLIAMS, ASC, "Fair Exchange"*.

JAY GERTSMAN ASC. "The Lucy Show"*

TED VOIGHTLANDER, "Ben Casey"*,

EDWARD FITZGERALD, ASC, "Lassie"*.

ROBERT PLANCK, ASC, 'My Three Sons"*.

WALT DISNEY PRODUCTIONS

EDWARD COLMAN, ASC., 'Savage Sam" with Brian Keith and Tommy Kirk Norman Tokar, director.

DAVID HARCOURT, "The Three Lives of Thomasina" (Technicolor, shooting in England) with Patrick McGoohan and Susan Hampshire Don Chaffey, director

WILLIAM SNYDER, ASC, "Summer Magic" (Technicolor) with Hayley Mills and Burl Ives. James Neilson, director.

GUNTHER ANDERS, "The Miracle of the White Stallions" (shooting in Vienna) with Robert Taylor and Eddie Albert. Arthur Hiller, director

FILMWAYS — MGM

TOM TUTWILER ASC, "Shell's Wonderful World of Golf"*.

FILMWAYS—New York

MORRIS HARTZBAND, The Defenders"* (CBS) Boris Sagal and Buzz Kulick, directors.

FOX WESTERN AVENUE

JAMES VAN TREES ASC, "Dobie Gillis"*

GENERAL SERVICE STUDIOS

LESTER SHORR, ASC, "The Beverly Hillbillies"*.

ROBERT MORENO, "Adventures of Ozzie & Harriet"*.

HARRY WOLF, "Don't Call Me Charlie"*

GOLDWYN STUDIOS

NORBERT BRODINE, ASC, "The New Loretta Young Show"*.

INDEPENDENT

CONRAD HALL, "Stoney Burke"* (Daystar)

SAUL MIOWALL, "Felicia" (Association Prods, shooting in Puerto Rico)

GAYNE RESCHER, ASC, Identical Twins" (Noel Productions, shooting in Conn.) Jerome Hill, director "Oral Roberts Series"* (Religious Films)

SOL NEGRIN, MIKE ZINGALE, EDDIE HUGMES, AL TAFFET, "Candid Camera"*

RICHARD MILLER "One Touch of the Lady" (Anthe Prods. N.Y.) with Louise Sorel and Paul Richards William Herman, director.

JACK HILDYARD '55 Days at Peking" (Samuel Bronston Prod., Super Technirama 70 & Technicolor shooting in Spain) with Charleston Heston and Ava Gardner Nicholas Ray, director

WALTER LASSALLY, "Tom Jones" (UA release Eastman color shooting in England) with Albert Finney and Susannah York Tony Richardson, producer director

I. BURGI CONTNER, ASC, "Light Fantastic" (Seneca Prods., shooting in New York) with Dolores McDougal and Barry Bartle Robert McCarty, director

DON MALKAMES, ASC, "The Terrible Truant" (Barbro Prods., shooting in New York) with Lee Grant

Continued on Page 594

SHOOTING A SCENE for '77 Sunset Strip,' popular television series starring Efrem Zimbalist (arm around girl at bar) Roger Smith and Edward Byrnes, and produced by Warner Brothers Various cinematographers shoot the weekly segments for this series including Ralph Woolsey, ASC, Robert Hoffman, Harold Stine, ASC, Carl Guthrie, ASC, Lewis Jennings, and Burt Glennon

CAMERA EQUIPMENT CO. INC

ONE CALL TO

CECO RENTS EVERY-THING

WORLD'S LARGEST STOCK OF CAMERAS, LIGHTS, RECORDING AND EDITING EQUIPMENT—expertly maintained by World's finest and largest motion picture and TV repair department—FOR DELIVERY ANYWHERE IN THE WORLD. WE SERVE MORE PRODUCERS THAN ALL OTHER SOURCES COMBINED. How about You?

® TM #707529

Cameras: 16mm & 35mm—Sound (Single or Double System)—Silent—Hi-Speed—Instrumentation

Lighting: Arcs—Floods—Spots—Incandescents—Dimmers—Reflectors—All Lighting Accessories

Generators: Portable—Truck Mounted

Sound Equipment: Magnetic—Optical—Mikes—Booms

Grip Equipment: Parallels—Gobos—Other Grip Accessories

Cranes, Dollies: Crab—Western—Portable Panoram

Lenses: Wide angle—Zoom—Telephoto—Anamorphic

Editing Equipment: Moviolas—Viewers—Splicers—Rewinders

Projection Equipment 16mm & 35mm—Sound & Silent—Slide—Continuous

Television: Closed Circuit TV

Camera Cars

CAMERA EQUIPMENT CO., INC.

315 W. 43rd St.,
New York 36, N. Y.
JUdson 6-1420

A Subsidiary of CECO INDUSTRIES INC.

Camera Equipment Co., Inc., Dept JS-21, 315 W. 43rd St. N Y 36 N. Y.

Gentlemen: Please rush me your FREE complete catalogue of Rental Equipment.

Name_____

Firm_____

Street_____

City_____ Zone_____ State_____

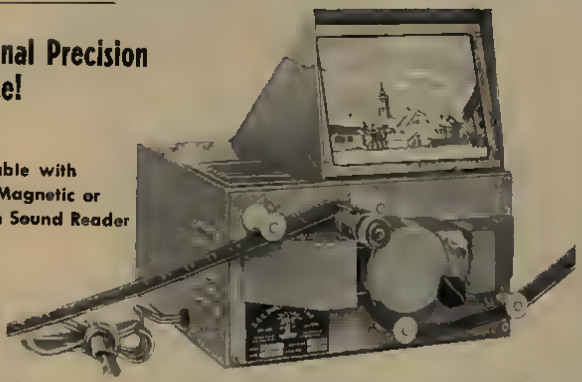
Florida:
51 East 10th Ave.,
Hialeah, Florida
TUxedo 8 4604

California:
6510 Santa Monica Blvd.
Hollywood, California
HOllywood

S.O.S. Ediola® Pro-35

Professional Precision at a Price!

Available with Optical Magnetic or Combination Sound Reader



- Large Screen 4¾" x 6 1/16"
- Brilliant Picture Image
- 75 watt lamp fan cooled
- Velvet action Nylon Rollers
- Film travels Left to Right
- Simplified Framing and Focusing
- 4-sided Prismatic Shutter
- Lightweight compact design

Write for brochure

A 35mm ACTION VIEWER designed for easy editing Precision optical system assures bright pictures in sharp focus whether film is moving or stopped Film protected from overheating or burning No intermittent or oscillating parts Free turning sprocket guards against film damage

S O S Ediola Pro 35	$385 00
Optical Sound Readar	185 00
Synchronizing Base	40 50
COMBINATION Pro 35 Optical Sound Readar and Base	$595 00
Footage and Frame Counter (optional accessory) installed	$100 00

S.O.S. PHOTO-CINE-OPTICS, INC.

602 WEST 52ND STREET, NEW YORK 19, N Y • Phone PLaza 7-0440 • Telex SOSCINE NYK 7174
WESTERN BRANCH 6331 Hollywood Boulevard Hollywood 28, California • Phone 464-7174

Filming in Europe?

PRODUCTION FACILITIES,
CAMERA EQUIPMENT HIRE,
SOUND RECORDING,
TECHNICIANS, TRANSPORT,
16 OR 35MM, ANYWHERE.

SAMUELSON FILM SERVICE LIMITED

Just Cable "SAMCINE, London"

AURICON CONVERSION

BY BIRNS & SAWYER OF HOLLYWOOD

EXTENDS CINE-VOICE OR PRO-200 CAMERA TO 400 OR 1200-FT. CAPACITY WITH NO LOSS OF ORIGINAL DESIGN!

BODINE TORQUE MOTOR, adjustable for reliable take-up relieves load on camera motor and drive mechanism (a B & S exclusive) Controlled by camera.

PRECISE WORM-GEAR FOOTAGE COUNTER for any film load Only $395 for Pro-200 conversion, $450 for Cine-Voice (Mitchell magazine extra) See your dealer or write-

BIRNS & SAWYER *Cine Equipment*

6424 SANTA MONICA BOULEVARD HOLLYWOOD 38, CALIF TELEPHONE, Hollywood 4-5161

BEHIND THE CAMERAS

Continued from Page 592

INDEPENDENT

BURNETT GUFFEY, ASC, "Flight From Ashiya" (Heath Prod & Daiei M P Co UA release, P'Vision; shooting in the Orient) with Yul Brynner and Richard Widmark John Sturges, producer, director

WOLFGANG SUSCHITZKY, "The Small Sad World of Sammy Lee" (Bryanston Seven Arts Prod; shooting in London) with Anthony Newly and Robert Stephens. Ken Hughes, director

HARRY WAXMAN, "Summer Flight" (Mirisch Berlinican Films Carrollton of Panama UA release, color; shooting in London) with Susan Hayward and Michael Craig Daniel Petrie, director

MANUEL ROJAS, "Year of the Tiger" (Kingman Prod; shooting in Viet Nam) with Marshall Thompson and Alex Nicol. Alex Nicol, director

WILLIAM CATHCART "Dementia" (Filmgroup Garrick Ltd Filmgroup release, shooting in Ireland) with William Campbell and Luana Anders Francis Coppola, director

WILKIE COOPER, "Mouse on the Moon" (Lee-Camp Prod., shooting at Carthay Studios) with Aubrie Martin and Roy Thinness. Dave Tomack, director

SAM LEAVITT ASC "Johnny Cool" (Crislaw Prod UA release) with Henry Silva and Elizabeth Montgomery William Asher producer director

GEORGE FOLSEY, ASC "The Balcony" (City Film Corp., Continental Distr Co release) with Shelley Winters and Peter Falk Joseph Strick, director

KEYWEST STUDIOS

FRED WEST, ASC, (Family Films) Series of Religious pictures

La BREA STUDIOS

ROBERT HAGER "Perry Mason"*

M-G-M STUDIOS

ROBERT PITIACK ASC, Ann Sothern Show*" (pilot)

JAMES DROUGHT Commercials*

GEOFFREY UNSWORTH, "Tamahine" (Seven Arts Prod; Eastmen color, shooting in Paris, Tahiti & London) with Nancy Kwan and Dennis Price Philip Leacock, director

JOSEPH RUTTENBERG, ASC, "Take Me to the Fair" (Ted Richmond Prod., P'Vision & Metrocolor) with Elvis Presley and Joan O'Brien Norman Taurog, director

MILTON KRASNER, ASC, "The Courtship of Eddie's Father" (Euterpe Prod., C'Scope & Metrocolor) with Glenn Ford, Shirley Jones and Roberta Sherwood Vincente Minnelli, director.

PHILIP LATHROP, ASC, "Dime with a Halo" (Vadnay-Wilhelm Prod.) with Barbara Luce and El Fostorito Boris Sagal, director

ROBERT PITIACK ASC, GEORGE CLEMENS, ASC, "Twilight Zone"*

ROGER FELLOUS, "Two are Guilty" (Franco-ftalianne Prods., Dialyscope, shooting in Paris) with Anthony Perkins and Jean-Claude Brialy. Andre Cayalle, director.

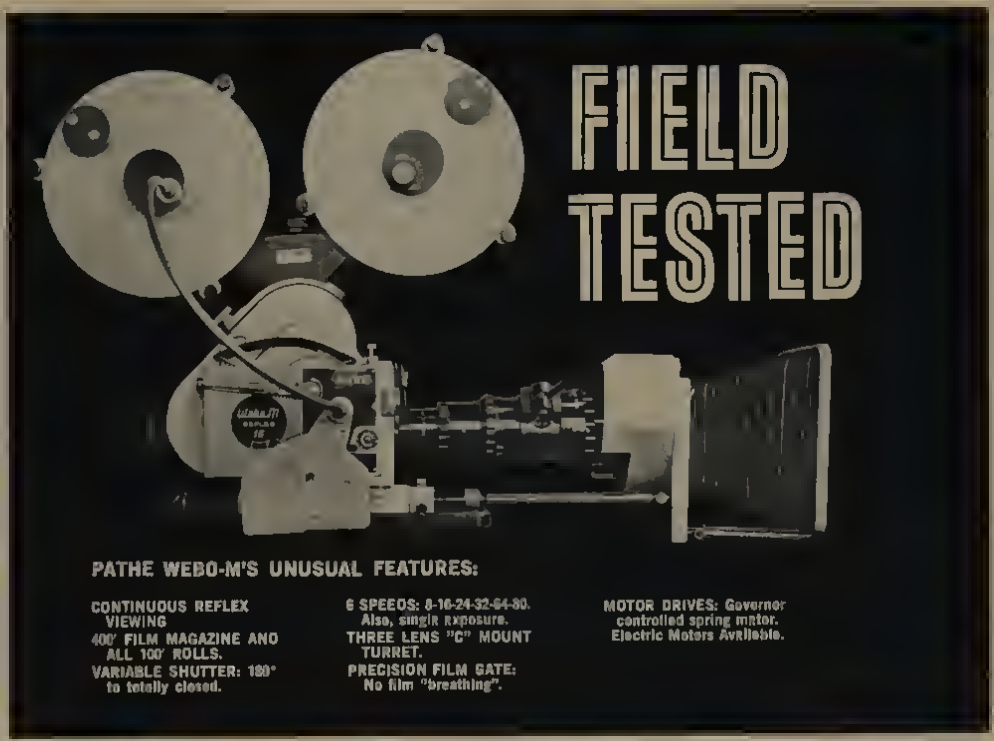
HARKNESS SMITH, "Dr. Kildare"*.

DALE DEVERMAN, "The Eleventh Hour"*.

WILLIAM SPENCER, "Sam Benedict"*.

ROBERT HAUSER, "Combat"*.

Continued on Page 635


FIELD TESTED
PATHE WEBO-M'S UNUSUAL FEATURES:
CONTINUOUS REFLEX VIEWING
400' FILM MAGAZINE AND ALL 100' ROLLS.
VARIABLE SHUTTER: 180° to totally closed.
6 SPEEDS: 8-16-24-32-64-80. Also, single exposure.
THREE LENS "C" MOUNT TURRET.
PRECISION FILM GATE: No film "breathing".
MOTOR DRIVES: Governor controlled spring motor. Electric Motors Available.

PATHE

PATHÉ PLUS IMAGINATION SOLVES A PROBLEM

Recently, Delaware Park Race Track in Wilmington had a problem. They were not satisfied with the 16 mm cameras they had been using in the patrol stations. They wanted a true reflex camera that could handle 400′ rolls of film. Price and quality both were important considerations.

Pathe's common market engineered Webo-M 16 mm Reflex together with the imagination of Cine Service Laboratories of Watertown, Mass., solved the problem very nicely. Cine Service mounted the forward reel of Pathe's 400′ magazine and fed the film onto a small take up reel inside the camera.

Results for both Delaware Park and Cine Service Laboratories were "gratifying from the optical and mechanical standpoint." The film saved through the use of the 400′ reel on the Pathe was substantial.

Saving money comes naturally to users of the Pathe Webo-M 16 mm Reflex. Equipped with an SOM Berthiot 25 mm f:1.4 lens, the Pathe Webo-M costs you less than $530

Solving problems is nothing new to Pathe's Webo-M. This 16 mm reflex lets you produce every movie making idea. You can use it as a light weight hand camera for news and fast action filming. It weighs less than 6 lbs. When you add the 400′ magazine, you have a high mobility studio camera.

A full line of accessories and over 20 SOM Berthiot and Angenieux lenses are available for use with the Pathe Webo-M.

Factory approved service organizations, available nationwide, provide prompt and efficient service.

PATHE PRODUCTS, INC.
9 Pleasant Street, Providence 6, Rhode Island
Sole U.S.A. Agents for Pathé Société Commerciale et Industrielle.

COMPLETE OUTFIT AS SHOWN SELLS FOR LESS THAN $1375.00

PATHE PRODUCTS, INC.
9 Pleasant St Providence 6 R I

☐ Please send brochure
☐ Please send dealer's name

Name
Firm
Address
City State

Charles Ross INC

For the most complete line of Specialized Lighting Equipment

Charles Ross INC

Largest Suppliers of Motion Picture, TV and Industrial Photographic Equipment in the East

Charles Ross INC

appointed

Sole Distributor

of

Mole-Richardson Co.

Products in

New York City

Charles Ross INC

for Generator Trucks and Trailers, Grip Equipment, Props

You're always on schedule with . . .

Charles Ross INC

333 West 52nd Street
New York 19, N.Y.
Circle 6-5470

C R Since 1921...

Charles Ross INC

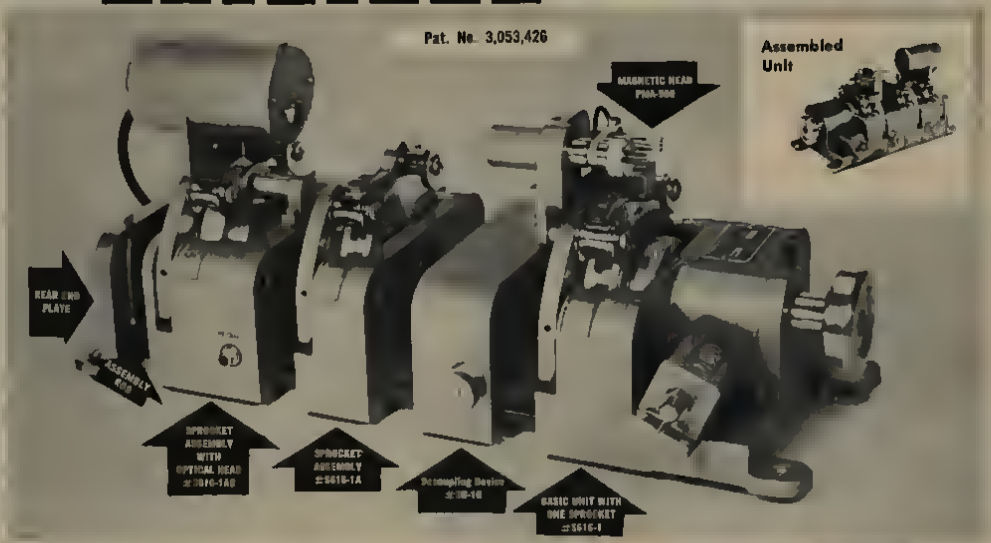
for

RENTALS

SALES SERVICE

Send for a schedule of rental rates.

ANOTHER FIRST BY PRECISION! PRESENTING THE UNITIZED SYNCHRONIZER



A totally new concept in film synchronizers add or subtract units as you need them, when you need them

A unitized design concept is incorporated in our entire line. You can now purchase a synchronizer and be able to add-a-unit whenever the need is there It is not necessary to put your unit aside, because you have outgrown it, or change your mode of operation. We have developed this unitized system to give the film editor a flexible piece of precision equipment.

- Footage Counter — reset type
- Precision ball-bearings & oiless bearings throughout
- Large sprockets to S M P T E standards
  16mm—40 frames 35mm—16 frames
- Dural tension rollers — adjusted individually
- Finger tip release
- Perfect control — convenient hand wheel
- Individual frame movement — shaft slip lock
- Table mounting feet with rubber pads
- Attractive hammertone finish
- Simple coupling method for unitized assemblies

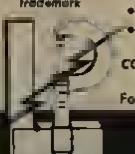
COMBINATION SYNCHRONIZERS are also available

"Building Blocks"

One gang single 16mm unit

One gang single 35mm unit

Look for this trademark



For information and prices write

Designers and Manufacturers of Equipment for the Motion Picture and TV Industries

PRECISION LABORATORIES
DIVISION OF PRECISION CINE EQUIPMENT CORPORATION
928-930 EAST 51st STREET BROOKLYN 3, N. Y.

THE LAB FOR REVERSAL FILM

16MM

BLACK & WHITE
REVERSAL
PRINTING
&
PROCESSING
&
COLOR PRINTING

OTHER SERVICES
- Work Prints
- Color-to-Color Prints
- Color-to B & W Prints
- Raw Stock
- Fastax Service
- A & B Roll Prints
- Fades-Dissolves
- Timed Prints
- Edge Numbering

FOR COMPLETE INFORMATION WRITE

LAB-TV

723 Seventh Ave., New York 19, N.Y. • JU 6-2293

Q & A

Technical Questions and Answers

NOTE: This month we are devoting this column to a number of letters which have been received from readers, correcting our statements in recent issues or giving information sought by readers in the past through this column.—Ed.

Instant Start Motors

Editor:

Enclosed is a page from the August, 1962, issue of American Cinematographer, which includes a question relating to Bolex 16 equipment. I am writing to you in this instance because the answer to the reader's question is not completely correct.

The Bolex H-16 camera, when equipped with the Bolex Unimotor, permits instant starting and stopping of the camera exactly as sought by your reader whose question you published. As far as I know, this is the only electric motor which permits such instant starting and stopping, which is accomplished by means of a friction clutch in the motor. This permits starting and stopping the camera by means of the regular release button on the camera, same as for normal spring motor operation.

—Ernst Wildi
Paillard, Inc.
New York, N. Y.

Editor:

In the August issue of your magazine, a reader asked about electric motor-driven cameras that would start instantly. We use Bolex cameras and the Bolex electric motors. The "wild" motors have a disk clutch, which permits the motor to be switched on and then the camera mechanism can be started by pushing the button on the camera. The starting and stopping action is the same as that for the spring motor drive. Where a synchronous motor is used, the problem of building up to speed must, of course, be contended with.

The reader's question did not indicate whether he wanted to use a "wild" or sync motor. However, I want to pass along the foregoing information based on our experiences in using the Bolex motor equipment.

—Grant L. Anderson,
GLA Film Productions
Modesto, Calif.

Filter Slot For Films

Editor:

Your answer to question of "H. R., Seattle, Wash.," (December, 1961, issue), is erroneous. H. R. asked if installation of a filter slot on a Filmo DR camera was feasible. Your answer implied it was inadvisable to put a filter slot behind the lens.

For your information, Camera Equipment Company, New York, N.Y., has successfully installed filter slots in the Bell & Howell 70 DR camera.

—Leroy A. Bell,
Philadelphia, Pa.

Editor:

In a recent issue of American Cinematographer, you published a reader's question relative to the advisability of installing a filter slot in the Bell & Howell 70 DR camera. Wish to advise that we install a filter slot in this camera. It is cut directly behind the turret and no distortion results from filters used in the slot in this position.

Frank A. Riker
Camera Equipment Co.,
New York, N. Y.

Correction

And here's one from the Editor himself . . .

In our answer to reader E.R.D's. question in the September issue (page 534) we stated as follows: "Use your reflected light meter here, etc., etc. We should have said *incident* light meter. The procedure recommended, of course, was that which is standard for this type meter. ■

Reliability and Experience

LIGHTING

MOLE - RICHARDSON
COLORTRAN INDUSTRIES
(exclusive European manufacturing and sales representatives)

CAMERAS
GRIP EQUIPMENT
DOLLIES AND CRANES
GENERATORS
SOUND EQUIPMENT

TECHNICAL CONSULTANCY AND SPECIALISED SERVICES

WRITE DIRECT:

FRANCE - 28-28 bis Rue Marcelin-Berthelot, Montrouge - Seine
Cables: Molereng - Paris
General Manager: René Schell

ITALY - Via del Velodromo 68-74, Roma
Cables: Molereng - Roma
General Manager: George Gordner

GERMANY - Hofangerstrasse 78, München, 8
Cables: Molereng - München
General Managerens: Gisell Schneeberger

SPAIN - Alcalá 32, Madrid, 14
Cables: Molereng - Madrid
General Manager: Gregoria Sacristan

ENGLAND - Chase Road, London, N.W. 10
Cables: Molereng - London
Managing Director: A. H. Page

OVERSEAS MANAGER: *John Page*

TYPICAL SHOOTING SET-UP for the "Dobie Gillis" show. Two Mitchell cameras mounted on crab dollies photograph the action from different angles, under the direction of cinematographer James Van Trees, ASC

Because sets must be lit for two cameras and all lamp units must be off the floor, the basic lighting is more or less permanent for each set. Spun glass diffusers are used on all lighting units.

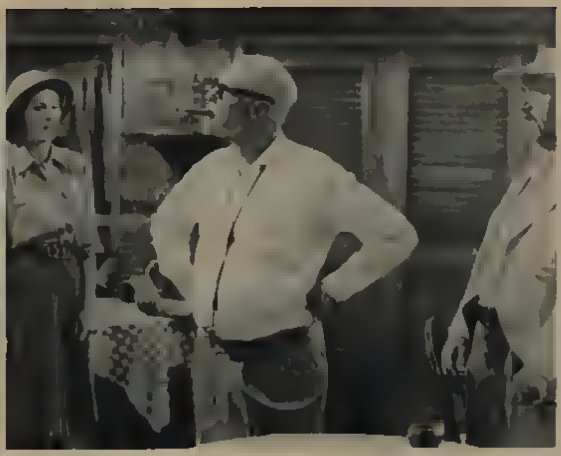
FILMING THE DOBIE GILLIS SHOW

By FREDERICK FOSTER

IN HOLLYWOOD, television films are photographed by one of two methods: with a single camera, as in conventional feature film production, or with a multiple-camera set-up of two or more cameras operating simultaneously. In the first method, the camera must be re-positioned to make the various shots — medium, closeup, etc. — whereas with the second, the required variety of shots are made without stopping by either one or both of the cameras working at different positions on the set, or as they are moved from one position to another on crab dollies.

The popular "Dobie Gillis" television show, produced by 20th Century-Fox studios, is a product of the latter method. Directing the photography since its inception is James Van Trees, ASC, a veteran of the Hollywood sound stages and also of the multiple-camera shooting technique. While Van Trees did not initiate this method of TV film photography (it is credited to Karl Freund, ASC, who utilized three dolly-mounted cameras in shooting the "I Love

DIRECTOR OF Photography James Van Trees (right) charts his camera moves and possible lighting changes as actors rehearse



WHILE GAFFER on catwalk above makes necessary lamp adjustment (and players continue rehearsing) Van Trees checks a light for position

Lucy" TV films) he has over the years improved upon it.

The "Dobie Gillis" series is essentially family situation comedy. Each weekly segment is a story that has identification with some problem familiar to everyone. The stories are enacted on a series of more or less permanent sets on a sound stage at the Fox Western Avenue studio. To photograph each show takes two days—one for rehearsals and the planning of lighting and photography, and the other for putting the show on film.

On the first day, Van Trees, his two camera operators, boom man, dimmer operator and grips assemble on the sound stage for rehearsals along with Director Rod Amateau, key members of the cast and the stand-ins. No camera equipment is present. Director Amateau has his players go through their lines, blocks out the action, and has chalk marks placed on the floor to indicate player positions or the limits of their respective movements. Rehearsals begin at 10:00 a.m. and continue until about three in the afternoon, when the director and the cast leave the stage.

At this point, Van Trees, who until this point has been on the sidelines as an observer, takes over.

Continued on Page 616

TWO OF THE permanent sets for the "Dobie Gillis" show are pictured below. The smooth, shadowless lighting achieved by Van Trees is evident in both photos. Neither set nor multi-dimensional, such illumination greatly simplifies the photography by two cameras

CLOSE BY SITE of last year's Bel Air fire, Los Angeles Fire Department's fireman-cameramen Charles Petersen (center) and Clyde Cook (right) shoot an action scene for the Department's fire prevention production, "Design For Disaster"

USING A BATTERY POWERED Arriflex 16, Paul Garns records fire fighting action at scene of actual fire. Footage was subsequently used in a training film and a public information film produced by the department

Fighting Fire With Film

When a big fire breaks out in or near Los Angeles, the city's Fire Department Photographic Unit goes into immediate action to record the event in motion pictures. Resultant footage provides material for fire prevention films, training films for firefighters, and not infrequently graphic coverage of the event for TV newsreels.

By DARRIN SCOT

DURING THE disastrous fire which ravaged the exclusive Bel Air and Brentwood residential areas of Los Angeles last year, a team of fire-eating cameramen darted in and out of the blazing buildings, covering the raging holocaust with motion picture cameras as flaming timbers came crashing down about them. For five days and nights these fireman-cameramen remained in the front lines of action, recording on film documentary evidence of the causes and effects of this costly blaze. These were trained, expert cameramen of the Los Angeles Fire Department Photographic

Unit, and their daredevil quest for spectacular fire footage was, for them, all in the day's work.

The result of their courageous effort, in this case, was a 26-minute sound and color film titled "Design for Disaster," the first two-thirds of which is a dramatically-photographed documentary record of the conflagration itself, and the remainder a graphic analysis of cause and effect which utilized animation and time-lapse photography to explain what happened and why. The picture has been widely circulated as a public information and educational film to awaken home-owners to the dangers of fire under certain conditions. It is scheduled for a special screening at the forthcoming San Francisco International Film Festival.

"Design for Disaster" is only one of the many motion pictures of professional quality turned out by the Los Angeles Fire Department film unit since it was formed in 1947. Headed by Capt. H. E. Avery, assisted by Inspector Paul L. Garns, the unit functions in a unique way, training firemen from the ranks to become cinematographers specializing in filming Fire Service subjects. The reasons for this seeming inside-out paradox are very practical.

Firemen First, Cameramen Second

"A majority of our cameramen, both still and motion picture, have learned photography right here in the department," explains Capt. Avery. "Some come to us with considerable amateur experience and we build them from that level to meet our highly specialized needs. They must be firemen first, however, and photographers second because, in order to shoot close-ups of fire fighting action, they often have to work in closer to the fire than the men who are actually fighting it. They must be able to estimate what the fire is going to do and how far they can extend their own limitations as cameramen in filming it. The only way to learn this is to be thoroughly trained as a fireman. That is why we require a minimum of 3 to 4 years of fire department experience before we will consider breaking a man in, even as a relief still photographer. By the time his training is completed, however, he is a thoroughly professional specialist in Fire Service photography—as specialized in his own sphere as the cameramen who film space subject matter — although his closest parallel is probably the armed services' combat cameraman."

Amply Protected

The demands on these cameramen are, indeed, special. When shooting, they must wear protective clothing, be prepared to get wet when filming a head-on shot of fire-fighters maneuvering a high-pressure nozzle, know how to "catwalk" a parapet to get a vivid shot of a roof caving in, and be able to hang from ledges and fire escapes to cover the action.

All members of the photographic staff carry the title of "Inspector" in order to be able to function unhampered at the scene of a fire. They wear gray shirts and white hats which, to the lay public, is a designation of authority, serving to eliminate interference and unnecessary questions.

On Standby Basis

The unit is flexible in that, while several of the men work full time as cameramen, others work as active firemen in a company until a big production or a large-scale fire requires the full photographic staff to grab cameras and move into action. Motion picture equipment is kept ready for action in three separate Fire Department vehicles and trained personnel stand by 24 hours a day, seven days a week. Since there is never any way of telling when a small fire will turn into a major conflagration, the photographic unit must be prepared for action at all times. It responds to all major fires and unusual emergencies resulting therefrom in order to build its library of actual fire footage for later use in full-scale productions. Such footage is also carefully studied within the department to determine causes and effects of specific fires.

Continued on Page 624

THE NEWEST AND best of equipment enables Los Angeles Fire Department's Film Unit to turn out films of the highest professional quality. Here Inspector Paul Garns (left) and Capt. Hubert E. Avery confer at Mayicle on a current production. (All photos courtesy L.A.F.D.)

Filming "Hemingway's Adventures of a Young Mon," o . . .

TWO-CONTINENT ASSIGNMENT

By HERB A. LIGHTMAN

CAMERA CAR placed at cinematographer Garmes' disposal by the Soo Lines for making lengthy running shots, has flanged wheels added fore and aft that keep the pneumatic tired wheels of car running smoothly on the railroad's steel rails

TO CAPTURE AUTHENTICALLY the full visual scope of the late Ernest Hemingway's adolescent years in "Hemingway's Adventures of a Young Man," Director of Photography Lee Garmes, ASC, focused his camera on distant locales ranging from the glorious lake-country panorama of the upper Michigan-Wisconsin peninsula to the classic Italian city of Verona and its surrounding countryside.

All of the exterior scenes and many of the interiors of the film were photographed in far-flung locations, so that the picture radiates a kind of pictorial truth it could never otherwise have had. In addition, the multi-colored autumn foliage of the mid-west lake-country and the rugged Italian landscape, as artfully captured by the CinemaScope camera, lend nostalgic beauty to this carefully wrought filmization of the great novelist's early life.

ON LOCATION in Italy, Director of Photography Lee Garmes, ASC, chats with Susan Strassburg, co-star of Hemingway's Adventures of a Young Man' which he photographed in CinemaScope and color

Mellon, Wisconsin, was selected to simulate Sidess, Michigan, circa 1915—hometown of Hemingway's thinly disguised autobiographical hero, Nick Adams. Actually, Hortons Bay, Michigan, was the summer playground of the Hemingway family, but Hortons Bay had undergone many physical changes between 1915 and the present day. To find a suitably authentic substitute locale, 20th Century-Fox unit manager Saul Wurtzel and art director Paul Grosse scouted the countryside by helicopter until, in Mellon, a town of some 1,200 inhabitants, they found the location they were seeking.

Town's Cooperation Helpful

There had been comparatively few physical changes made in Mellon since the period of the film. The railroad tracks and the station are located at the bottom of the main street which grades up to the square where the city hall stands. The studio requested that, for filming purposes, the original antique lights be brought back to replace new fixtures only recently installed. It also asked that the paved streets be temporarily surfaced with dirt and the cement sidewalks covered with wooden planking as they had in former days. In both cases the townspeople willingly obliged, and also dismantled TV antennas and a few anachronistic neon signs while they were about it.

Attracted by news that a motion picture company

FOR A SERIES OF important moving camera shots involving Paul Newman as a punch drunk ex-boxer doing daily roadwork for his next big fight," the camera was mounted along with booster lights on a low dolly tethered to the fighter's car

TO GIVE THE big homecoming" scenes the desired pictorial aspect, the CinemaScope camera along with bank of booster lights was mounted on platform extending out from doorway of railroad coach Portable generator, inside coach, furnished controlled voltage for lights

was shooting in the area, an estimated crowd of 50,000 tourists visited Mellon while filming was in progress. Quick to recognize this boon to local commerce, and impressed by the job 20th-Fox did of turning back the clock to 1915 in their town, the city fathers decided to keep it that way—making it a tourist Mecca complete with hay-rides in summer and sleigh rides to nearby ski-jumps in winter. They published a souvenir folder and commemorative edition of the *Mellon Record,* as well as post cards picturing the film being made.

Weather Uncooperative

Saxon, Wisconsin, underwent the same type of metamorphosis and emerged as it actually was in its heyday, a honky-tonk rough-and-ready-for-anything lumber town. For crowd sequences depicting the hero's homecoming, 400 of the actual townspeople were costumed in the 1915 mode and photographed. Other location spots serving as photographic backgrounds besides Mellon and Saxon were Lake Adelaide, Lake George and the Lake of the Falls. The beautiful sculptured rock estuary of the Presque Isle river formed a magnificent background for fishing scenes, although its almost inaccessible location required that cameras and other equipment be laboriously packed up the sides of a steep ravine.

The chief obstacle of the motion picture company while on location in the mid-west was the weather. Out of the seven weeks the company remained in the area, only about five days could be classed as ideal for color photography. On these days cast and crew worked furiously to make up time, often shooting as much as three days of scheduled action in one day. Most of the time, however, the light was so weak that Garmes was compelled to use booster lights for all shots to augment the sparse natural light. Under such adverse conditions, he achieved several striking atmospheric sequences marked by glowering skies. One climactic sequence required the leading character to be silhouetted against a sunset. To capture just the right pictorial effect, Garmes kept a special vigil each day for clouds forming in a certain way. When cloud formations seemed right, the company would break early from the sequence being shot and set up hopefully to photograph the sunset-silhouette scene. This procedure was followed at least four different times before the striking shots used in the picture were recorded on film.

Dramatic Scene Filmed On Trail

A photographically challenging sequence was filmed aboard a flatcar of a freight train moving through a gorge in the spectacular peninsula territory. The hero of the story, Nick Adams, is seen hopping the flatcar and bedding down for what he hopes will be an express ride to New York. Instead he is accosted by a sadistic brakeman who bounces him off the moving train and into the gorge below. Such a scene might have been easier to stage in the studio using process photography, but Director Martin Ritt and Garmes, both sticklers for realism, elected to shoot it on location aboard the moving train. Mounting camera and reflectors on the flatcar with the actors, Garmes photographed the dramatic sequence as the train lurched and wound its way through the serpentine curves of the mountain wilderness.

Continued on Page 631

1959 1960 1961 WINNING

ARRIFLEX®!

Container Corporation of America
"THE PACKAGING SYSTEM"
Producer – Ralph Eckerstrom
Director – Rhodes Paterson

Cook Electric Co.
"THE 3 R's OF AEROSPACE PHOTOGRAPHY"
Producer/Director – C. O. Probst

General Dynamics/Astronautics
"FRIENDSHIP SEVEN"
Producer – Eugene C. Keefer
Director – John Hynd

General Electric
"THE HANDS OF INDUSTRY"
Producer/Director – J. H. Reese

IBM Data Systems Division
"BY THE NUMBERS"
Producer – Stu Munson
Director – Ed Casazza

CONGRATULATIONS
to our
prizewinning
Arriflex customers,
their films and
directors/producers

IBM Development Laboratory
"COMPUTER SIMULATION"
Producer/Director – E. R. Riordan

Lockheed-Georgia Co.
"INVITATION TO GEORGIA"
Producer – Robert Strickland
Director – J. Kermit Echols

United Air Lines
"KNOW HOW"
Producer/Director – Ira Thatcher

U. S. Air Force
"BREAKING THE LANGUAGE BARRIER"
Producer – George Pratt

University of Michigan TV Center
"THE IDEA OF MICHIGAN"
Producer/Director
Hazen J. Schumacher, Jr.

...res through-the-lens ...ng while filming; auto- ... buckle switch; diver- ... 3 lens turret, regis- ...on pin in precision film ... variable-speed elec- ... motor.

Rear view, showing Arriflex 16's distinctive components: eyepiece of direct viewing finder, tachometer; footage and frame counters, variable speed control for the motor.

Unique turret design permits any 3 lenses, from extreme wide angle to 300 mm telephoto, to be mounted simultaneously without mechanical or optical interference with one another.

Arriflex Sound Blimp plus 400' tool magazine and synchronous 42V motor convert Arriflex 16 to an efficient production camera for industrial, sound stage, and location filming.

Blimp door ... – 3 sep... arate doors provide ea... access to inter... one o... top to permit mount... magazine, one in front fo... access to lens turret, on... one at side for insert o... camera.

*ANNUAL INDUSTRIAL FILM AWARDS-conducted by the publishers of Industrial Photography magazine

FOR LITERATURE OR DEMONSTRATION OF ARRIFLEX 16MM AND ARRIFLEX 35MM CAMERAS, WRITE TO

1962 PATTERN!

THIS MAKES FOUR! Four years straight... Arriflex motion picture cameras were used by more winners of the Annual Industrial Film Awards* than all other cameras combined! An unmistakable pattern of popularity. A pretty sound testimonial to a camera's capabilities.

Only the Arriflex offers the unique co-ordination of optical and mechanical features combined in a compact, fast-handling, precision package. Among these features: the mirror-reflex shutter (invented by Arriflex) and a precise registration-pin film movement not found in any other professional camera under $2,000; also — 21°-divergence lens turret, contour hand grip, electric motor drive, frames-per-second tachometer, and a complete system of special-purpose accessories. And above all, performance! Performance that saves time and money, performance that delivers its own reward on the screen.

ARRI®

ARRIFLEX CORPORATION OF AMERICA | 257 PARK AVENUE SOUTH, NEW YORK 10, N. Y.

A TYPICAL amateur operation in which the camera mounted G-E photo light provides illumination for a home movie scene in color. But it could very well be a TV news cameramen shooting an important news event. Power source is nickel cadmium battery carried on shoulder strap

G-E Introduces New Portable Cinema Light

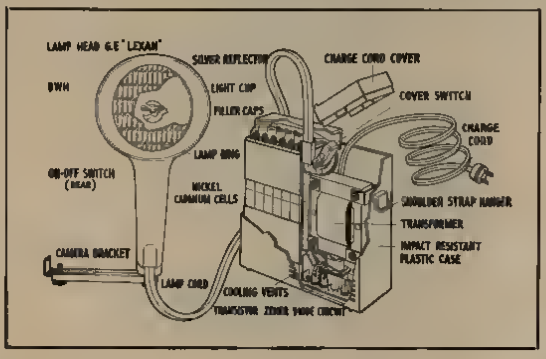
Here's a battery-powered photo light for 16mm cameramen that is rugged, efficient and serviceable in any location.

A NEW, PORTABLE photographic light, introduced last month by General Electric Company, is ideally suited to the requirements of TV news cameramen and other 16mm photographers whose assignments often take them into areas where conventional 110/115-volt lighting equipment is unavailable or impractical to use.

Originally designed to provide the amateur movie maker with a dependable light source for shooting indoor movies in color, the G-E Portable Cinema Light will have strong appeal for professional cinematographers because of its ability to provide effective fill light for day shots as well as adequate illumination for night shots of subjects or action ranging from 4 to 20 feet from the camera.

The two-piece unit consists of lamp with camera mounting bracket and compact nickel-cadmium battery pack. Two major innovations in lamp manufacture make possible the Cinema Light's small size, according to G-E. The first is that the lamp uses silver for a reflector, said to be the first time that silver has been successfully used on a hard glass PAR lamp. Its use increases the lamp's efficiency 10%, according to the manufacturer. The other innovation is the use of a silver light-collecting cup

GENERAL ELECTRIC'S new portable cinema light (right) with its high intensity lamp and powerful nickel-cadmium battery diverces the 16mm cameramen from wall plugs and extension cords for location shooting. Diagram below shows components of lamp unit and its battery power source



ahead of the filament that gathers normally wasted light and puts it back into the beam. This, according to G-E, increases light efficiency another 30%. If it were not for these improvements in the light source, the company points out, a larger and heavier battery would be necessary to power the lamp.

The compact battery pack is 2½" x 6½" x 6½" in size and consists of six nickel-cadmium battery cells of the "pressure-relieved cell" type, similar to those used successfully in the U.S. space program. Advantage of this type battery over "sealed cell" batteries is its ability to take a quick charge and put out high power at intervals literally thousands of times. Incorporated in the battery pack is an automatic charger capable of completely charging the battery in about 60 minutes. It is automatically disconnected when the battery becomes fully charged. The circuit also is designed to produce a dim glow in the lamp so that the user knows when it is charging—when the glow goes out it indicates the unit is fully charged and ready to go. To charge the unit, you simply pull out a self-contained cord in the power pack, plug it into any convenient wall outlet and allow the unit to charge. Should there be some doubt whether the unit is fully charged or not, it's a simple matter to pull out the plug, put it back in and the lamp will glow for a few seconds and then go out.

The Cinema Light also has built-in safety features. For example, if the battery is knocked over accidentally it automatically turns the charger off. The lamp head is so designed that the camera bracket can be screwed on the back and locks the switch in an off position.

The Cinema Light is available in a choice of three lamps, each fulfilling a specific need. The Standard Model comes equipped with the G-E DWH lamp, which has a smooth illumination beam of 36° x 25°. It can be used efficient-

Continued on Page 623

THE NEW MITCHELL MARK II 35MM REFLEX

A NEW KIND OF MOTION PICTURE CAMERA is now being shipped in these foam-lined aluminum cases to a long waiting list of customers throughout the world. The Mark II is the most advanced Studio Reflex in history—creates a new class of Mitchell cameras of sophisticated design and superior performance. Designed specifically as an advanced studio production camera that readily adapts to hand held filming, this is the most carefully researched and tested new concept in modern camera engineering. In addition to superb Mitchell workmanship and the many years-ahead professional features, the Mark II offers technicians a superb new line of lenses and other major accessories to complete the Mark II system! Priority of delivery will be scheduled from date of order. For literature and information about field demonstrations . . just write on your letterhead today.

MITCHELL
CAMERA CORPORATION
666 W. HARVARD ST., GLENDALE, CALIFORNIA

AGENTS: Mitchell Camera of New York, Inc.—521 Fifth Avenue—New York, New York
Vinten Mitchell Ltd.—715 North Circular Rd.—London, N.W. 2, England
Nagase & Co., Ltd.—3, 2-Chome Kobunacha—Nihonbashi, Chuaku—Tokyo, Japan

KODACHROME II was formulated primarily for amateur use, and direct projection of the original. Its fast speed and improved quality has created considerable interest among professionals

DUPLICATING KODACHROME II

A laboratory technical director tells why duping this new 16mm color stock presents certain problems.

EXPERIENCED in plant film editors like E. Schrier of Space Technology Laboratories, knew that it is inadvisable to intercut Kodachrome II with another 16mm color film. The two films cannot be successfully reproduced if they are cut together in the same printing roll

WHEN EASTMAN KODAK COMPANY, a few months ago, presented amateur movie makers with the new, faster Kodachrome II 16mm color film, its astonishing results naturally attracted the attention of many 16mm professionals. Some substituted the film for the earlier Kodachrome or Ektachrome they had been using, and when they attempted to intercut it with the other films or to duplicate it, they ran into trouble.

The major film laboratories were among the first to discover the film's limitations in these respects as a result of tests they had run on it prior to its introduction on the market. Later, because of misunderstandings which seemed to prevail among users regarding the duplication possibilities of Kodachrome II, General Film Laboratories in Hollywood asked its Technical Director Fred Scobey to write a report on the subject for the April, 1962, issue of *Rewind*, the company's monthly publication.

Scobey's report points out that Kodachrome II is a 16mm color reversal film having improved speed, definition and color rendering over the former Kodachrome, and it emphasizes that it is intended primarily for amateur use and direct projection—that is, projection of the original following reversal processing.

The film is available almost everywhere that 16mm film is sold, and comes in daylight and Type A (tungsten) emulsions in 50- and 100-foot lengths. Kodachrome II, Daylight Type, has an ASA exposure index of 25 daylight, and 12 tungsten (3400° K) with a Wratten 80B filter over the lens. The Type A emulsion has an ASA exposure index of 40 tungsten (3400° K), and 25 daylight with a Wratten 85 filter before the lens.

Kodachrome II does not have latent image edge numbers and, being a film intended for amateur use, the manufacturer does not hold to the close tolerances it does with its professional films. It has excellent shelf life, both before and after exposure. The color formers are a part of the developing process formulated for the film.

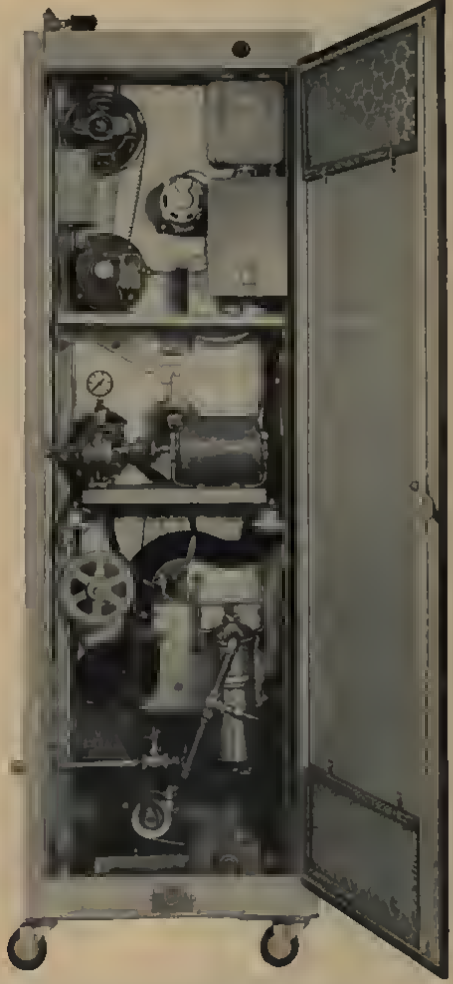
Let us now compare Kodachrome II with Ektachrome Commercial, Type 7255, which is a color reversal camera film of low contrast and prints to good projection quality. Ektachrome is a professional film and its availability is a great deal more limited in some areas of the world than is Kodachrome II. Ektachrome has an ASA exposure index of 16 daylight (with Kodak Wratten filter No. 85), and 25 tungsten for which it is balanced at 3200° K. The film is latent-image edge-numbered and is available with either silent or sound B-wind perforating. It is manufactured to close tolerances and the color formers are an integral part of the film. The reproduction of Ektachrome via either Kodachrome duplicating film No. 5269 or Eastman Color Internegative No. 7270 and then to Eastman Color Positive No.

Continued on Page 622

S.O.S. TEL-AMATIC 16-35mm NEG/POS FILM CLEANER

Any Way You Look At It...

THE ULTRA MODERN WAY TO



CLEAN FILM SAFELY AND INEXPENSIVELY

You can rent this High Speed Super Sproy Film Cleaner ot $50 per week (minimum eight weeks rental) with complete credit toword purchose price.

Write for illustrated brochure

Priced ONLY $3995
FOB N Y (crated)
The SOSolution, non-flammable non toxic cleaning solvent 55 gal drum **Per Gal. $3.25**

S.O.S. PHOTO-CINE-OPTICS, INC.

formerly S.O.S. CINEMA SUPPLY CORP.
602 West 52nd St, New York 19, N.Y.—Plaza 7-0440—Telegram "FAX N Y"
Western Branch 6331 Hollywood Boulevard, Hollywood 28 California — Phone 467-2124

Choose the ONE PACKAGE deal from JACK A. FROST!

. . saves you TIME and money on PRODUCTION RENTAL needs! . . . .

Gives you Complete, Coordinated SERVICE from START to FINISH!

JACK A. FROST

COBO HALL OFFICE. 401 Washington Blvd. Rm. 3143, WO 2-1255, Detroit 26, Michigan

MAIN OFFICE: 234 Piquette TR 3-8030, Detroit 2, Michigan

CANADIAN OFFICE 6 Shawbridge, BElmont 2-1145, Toronto, Canada

ON LOCATION for Ingmar Bergman's "Through A Mirror Darkly," cinematographer Sven Nykvist and crew prepare to make a tracking shot of two men in rowboat. The lightweight camera dolly with pneumatic wheels rolls upon track laid at water's edge and carries, in addition to the camera, a booster light

Photographing The Films Of Ingmar Bergman

In striving for realism in his photographic lighting, Bergman's cameraman finds the new, fast black-and-white emulsions extremely helpful.

By SVEN NYKVIST

ONE EARLY SUMMER MORNING this year a group of Swedish film makers gathered at Hotel Siljanshorg, Dalecarlia, Sweden. The sun glittered on the surface of lake Siljan as we lingered over our coffee on the terrace. Presently we left the terrace and gathered in the bridge room, which now became a session room for our film production conference.

Assembled were art director P. A. Lundgren and production manager Carlberg. There were make-up man Börje Lundh and his wife, costume designer Marke Vos. There were prop man K. A. Bergman, and Katinka, the script supervisor. And finally, director-producer Ingmar Bergman and myself, chief cameraman.

Katinka began reading the first page of Ingmar Bergman's script of "The Silence," which we had assembled there to discuss. She had not read far when the first question was fired at Bergman: What kind of effect had he imagined at this point? How should he reach it?

It was not by chance that we had gathered in this part of Sweden. Hereabouts were the nature and the people still keeping his childhood memories vivid for Bergman; as a child, he had spent all his summers here in Dalecarlia. And the landscape held many memories for the rest of us, too. On the first evening of our visit, we traveled to Styggforsen where we had filmed "The Virgin Spring" in May, 1959. The following evenings, we visited the little village where the very lengthy scenes in "The Communicants" were shot during the autumn months of 1961. (This feature, now completed, is scheduled for release in January, 1963—probably under a different title.)

But back to Bergman's script. It took us four days to fully cover the script, line-by-line. I have only once before encountered similar accuracy and diligence in production pre-planning and that was when I worked with the German director Kurt Hoffman. Such meticulous care might be construed as formalism and lavishness, but it saves a tremendous lot of time and money. Ingmar Bergman knows this by experience. In keeping with his growing position as a producer, he demands more planning activities preceding his productions. And this careful and exacting planning means much for his co-workers, too. Instead of going abruptly from one production to another, we are given time in which to acclimatize by emerging

Continued on Page 627

AUTHOR CINEMATOGRAPHER Sven Nykvist sits behind Arriflex 35 camera and discusses upcoming scene with producer-director Ingmar Bergman (left). Latter works with staff of only 7 or 8 persons and requires his cinematographer also to operate the camera.

Inspect every foot before it leaves your plant with the HFC High Speed Heavy Duty Inspection Projectors -- 16mm & 35mm models now available.

NEW

The projector is a converted front shutter Simplex with a two pin intermittent 16mm or 35/32 film runs at a speed of 144 ft per minute while 35mm film runs at a speed of 165 ft per minute

1. A variac controls the light intensity.
2. A 500 watt lamp is used for 16mm and e 1,000 watt for 35mm (a blower is used to cool the lamphouse).
3. A 2½ inch projection lens is furnished with each unit
4. A start stop lever controls the power to the lamp and motor.
5. The magazine end take up core takes up to 3,000 ft of film.
6. Upper guide rollers are made to handle the film from either direction of the feed reel
7. A free wheeling take off flange is provided in the magazine.
8. A lamp near the takeup reel permits hand inspection of the film prior to takeup

NOUVEAU

Le projecteur contient un obturateur Simplex anterieur transforme avec deux clavettes intermittent Les films de 16mm ou 35/32 tournent avec une vitesse de 144 pieds a la minute, tandis que les films de 35mm tournent avec une vitesse de 165 pieds a la minute

1 Le regulateur de voltage d'intensite d'eclairage
2 La lampe de 500 watt est nécessaire pour les films de 16mm, et de 1000 watt, pour les films de 35mm (un ventileteur est mise pour rafraichir la chambre de le lampe)
3 L'objectif de 2½ est instalé
4. La manette de mise en marche et d'arret controle en meme temps la lampe et le moteur
5 La boite de films avec noyau peut contenir 3000 pieds du films.
6. La roue supérieure est construite de manière de recevoir le film dans les deux directions, nourrie par le bobine centrale
7. Une roue est instalée pour libérer rapidement le film de la boite.
8 La lampe se trouve pres de la bobine recepteuse, et donne toute facilité pour inspecter le film a main dans le projecteur.

NUOVO

Questi proiettori sono Simplex transformati, otturatore al fronte, meccanismo di scatto di due punte. La velocitá di proiezione in 16 o 35/32mm e di 144 piedi per minuto, e in 35mm, di 165 piedi per minuto

1 Controllo manuale della luminositá della lampada.
2 Lampada di 500 watt per 16mm e di 1000 watt per 35mm
3 Obbiettivo di proiezione di 2½".
4 Maniglia per controllo di motore e lampeda di proiezione
5 Le cessetta porta pellicola puo contenere 3000 piedi
6 I rulli superiori di guida sono construiti per operare con film provenente di ambi lati delle bobine svolgitrice
7. Disco con montature sporgente nel magazzino
8 Una lampadine illumina la bobina avvolgitrice permettendo l'ispezione manuale del film prima che si avvolga nel proiettore

NUEVO

Esta máquina es un proyector simplex convertido, obturador el frente y movimiento intermitente a doble grife. Pera 16mm o 35/32mm la velocidad fije de proyección es de 144 pies por minuto, para 35mm es de 165 pies por minuto.

1. Un reostato controla la intensidad de la lampara de proyección
2. Pera 16mm se usa una lampare de 500 watt, y una de 1000 watt para 35mm (un chorro de aire ventila las lámparas en ambos casos)
3. Cada unidad está provista de un lente de proyección de 2 pulgedas y media.
4. Una palanca de control opera el motor y la lampara simultáneamente
5. Capacidad de proyección: rollos de haste 3000'
6 Los rodillos de guia superiores operen con la pelicula en embas diracciones.
7 La tapa de la bobina de carga es desenroscable
8. Una lámpera ubicada junto a la bobina de tome permite la inspección manual de la pelicula antes que se rebobine en la bobina superior del proyector.

designers and manufacturers of film and video tape editing equipment

HOLLYWOOD FILM COMPANY

REELS / CANS / CASES

956 N Seward, Hollywood 38, Calif , HO 2 3284 • 122 W Kinzie, Chicago 10, Ill , 644 1940 • 524 W 43rd St , N Y 36, N.Y , LO 3 1546

CROUCHING BEHIND Bolex H 16 camera, author Harrington prepares to shoot closeup of Japanese boy inspecting his catch of insects. Holding improvised reflector is the boy's father who took a serious interest in the procedures of photographing movies.

Photographing A 16mm Lecture Film In Japan

A 16mm cameroman explores the educator's needs for lecture films that show contemporary life in other lands.

By CLIFFORD V. HARRINGTON

OUR FILM, "Masao, Japanese Farm Boy," was made with a particular purpose in mind. We designed it as a lecture film for American school children.

Too often photographers pass up this lucrative lecture field. Before leaving the United States for Japan, I had interviewed several principals in northern California grammar schools and discovered that often their audio visual budgets went partially unused because of the lack of suitable program material. Our picture is expected to help fill this void.

Requirements, the principals said, were a 30- to 40-minute program, half devoted to a lecture with visual aids and half to a film. The points covered in the film should be simple, but both entertaining and educational, they said. The school principals mentioned that they were prepared to pay from $50 to $60 for two such programs.

The producer of our film, Tulio Pellegrini of Belmont, California, was in complete accord with our aims for the film. We planned to show the similarities and the differences between American and Japanese youngsters. To photograph the production Pellegrini loaned us a converted Bolex 16-mm camera and provided us with a supply of Ektachrome Commercial film.

Once in Japan we began a search through the countryside for a boy to star in our film. Finally we found a perfect combination of factors: a boy 11, who had a very photogenic family. Also, the house in which he lived had previously been a hotel and thus had a sufficient supply of electricity for photo lights and ample space for our work.

Included in our script were many of the phases of our "star's" daily life. I checked constantly with my assistant, Tsuneo Nozaki, to determine if the things I wrote into my script were true to Japanese life. By incorporating familiar experiences and surrounding the boy with his playmates, we managed to get a creditable performance from him.

During the course of one year, we photographed the farming activities of the boy's father and his neighbors. Whenever we could, we put the boy in the midst of the action. Primarily, we showed him helping his father in the rice fields.

Our filming was necessarily done in sequences, because of the time needed for my other activities in Tokyo. But whenever the weather looked favorable for photography we traveled to our location and proceeded with shooting.

When it rained, which was frequently, we moved indoors to shoot. Here we used photofloods with clip-mounts to illuminate the location interiors. One important indoor sequence we filmed shows the family eating a Japanese meal consisting mainly of rice, the produce of the fields.

For this inside work the Japanese sliding doors in each room provided excellent mounts for our lights. To change the angle of a photoflood, we simply moved the panel to which it was mounted and adjusted the direction of the beam.

Continued on Page 620

QUALITY AND SERVICE
16MM
BLACK & WHITE
REVERSAL NEGATIVE
POSITIVE PRINTING
AND PROCESSING
COLOR Processing-
COLOR PRINTING
Work prints—Timed Prints
Color to Color prints—A & B roll prints
Color to B & W prints—Fades Dissolves
Dupe Negative—Multiple prints
Raw stock—Fastex service
Loop printing
Write for complete information
VIDEO FILM LABORATORIES
350 W 50th ST. • NEW YORK 19, N Y
JUdson 6-7198

Specialized
LIGHTING EQUIPMENT
for
MOTION PICTURE, STILL
and
TELEVISION STUDIOS
Write for A Copy of Our
Catalog J on Your Letterhead
Mole-Richardson Co.
937 NORTH SYCAMORE AVENUE
HOLLYWOOD 38, CALIF

THE "DOBIE GILLIS" SHOW

Continued from Page 601

Together with his gaffer he estimates the new show's lighting needs and arranges for any necessary additional lighting units to be "pinned up" to augment the permanent, basic lighting layout. Three stand-ins are used in this operation. They take the positions chalked on the floor during the rehearsals, enabling the electricians to adjust the lighting for the actors. In this way, all sets are completely prelit so that when the company assembles the next day, photography proceeds in an orderly manner with no unlooked-for delays occasioned by last-minute lighting changes.

During this period, the lighting and camera requirements are plotted on charts by the camera operators, grips, and dimmer operator aided by the stand-ins. The cues, stop marks, etc., which they indicate on their respective charts are to guide them in their operations the following day when the show goes before the cameras.

Commenting on this phase of the production, Van Trees said, "During this rehearsal period I provide the camera operators with the necessary guide marks, which are usually within six inches of where they must go in actual shooting. While the director is rehearsing the cast, I'm on the set figuring the camera positions and dolly moves. The rehearsal period is long enough to enable me to study the action from both camera angles. As I cue the operators, grips and dimmer board operator they make the necessary last minute cue marks on their charts. Sometimes a chalk mark is placed on the floor, out of camera range, to indicate the limits of a dolly maneuver."

In all, there are six permanent sets on the sound stage for the "Dobie Gillis" show and the basic lighting for each is always in place, subject only to such changes as may be necessary for certain action in a given show.

Shooting The Show

When, on the following day, the company assembles on the set to photograph the show, Van Trees and his crew are told the number of the scene to go before the cameras first. The cameras are quickly rolled into position and the stand-ins again take their respective places on the set for a final check of the lighting. The key lights are read with a meter, as also are some of the others, and at this time the dimmer board operator is given final instructions on the illumination levels of the various lights for each of the cameras.

"At this time," said Van Trees, I make a final check of the lighting to make sure that it is the same as when it was set for the standins and that nothing has happened in the interim to change it. This camera rehearsal takes perhaps three or four minutes at the most and is the only one that takes place prior to shooting on that set. After we indicate to the director we are ready with the cameras, he may or may not rehearse the cast once more, and then we shoot the scene. Afterward, should the director decide he wants an added closeup or some other unplanned shot, the cameras are quickly prepared and the shot made."

Both cameras shoot the action simultaneously. Single-camera shots are seldom made. Using two cameras makes for faster production, Van Trees points out, and there have been many days when his crew has completed 95 individual set ups, getting—with the two cameras—almost 200 scenes on film in a single day's operations.

The Set Lighting

Lighting for all "Dobie Gillis" sets is off the floor—that is, the lighting units are suspended from overhead or mounted on top of the set flats, leaving the stage floor in front of the sets completely clear for unhampered movement of the cameras.

"On our standard sets such as the grocery store and the mall," Van Trees explains, "players can go almost anywhere and always be correctly lit. Not with flat lighting, either. There is

WHEN CHANGING YOUR ADDRESS

Please notify us at least four weeks in advance. BE SURE to give your Former address as well as your New Address. Our Circulation Department needs both addresses in order to properly identify your address stencil.

Your cooperation will insure that American Cinematographer will continue coming to you regularly without delay or omission of issues. Thank you.

—American Cinematographer

Ansco sets America's standard in films that meet the need for speed

You see the fast-breaking action sooner on New Super Hypan Reversal film! (Film speed 200 forcible to 400)

This black-and-white reversal film is the thing news-beats are made of. You save negative printing time and processing. Cover any action with film speed to spare (Normal 200 or boost it to 400 with forced development.) And be sure of this—your fastest action shots will project beautifully without objectionable grain . . . even when you use this film at higher speed. With Super Hypan Reversal you cover all assignments and see them faster with all the sharpness and detail you want.

ANSCO—America's first manufacturer of photographic materials . . . since 1842.

Ansco
Binghamton, N. Y.

Ultra-Speed Anscochrome and Super Hypan Reversal

modeling and invariably some highlights, too."

For illuminating the sets, standard studio lighting units are used throughout, with just about every unit controlled through the dimmer board. Some of these units are cone lights, which provide a quality of soft illumination that is ideal for the lighting demands of the two-camera photography technique. Spun glass diffusers are employed on all lighting units and contribute further to softening the quality of the illumination, which Van Trees has found ideally suited to photographing the show. Because the diffusers absorb up to 50 per cent of a lamp's effective illumination, those employed are more powerful than would normally be used in order to provide with the diffusers in place, illumination of the required level.

"While spun glass diffusers cut down illumination volume one-half," said Van Trees, "they provide light that is delicately smooth and free of hot spots or hard edges. Thus, in blending the light from two lamp units, the blending is soft, almost imperceptible. And the shadows are very soft. This is ideal for closeups—say, of two people kissing—producing shadows in the background that are so soft as to be almost unnoticeable. To attain a similar pictorial effect with hard lighting, it would be necessary to pull back the camera or resort to some other time consuming expedient that would not enhance the photography nor the players' performances."

Van Trees makes it a point always to have two key lights "hitting" the players in a close two-shot, such as the one described above, each projecting light from a different angle. Thus if a camera—moving during the shot "loses" one light, it still has effective illumination from the other. With the two key lights, there is always sufficient illumination to keep any shadows from becoming objectionable.

Because all the light units are off the floor and necessarily mounted high—most of them eight feet above floor level—this creates a minor problem, whenever a player bends over or looks down, his eyes are shaded slightly. To cancel out this effect, a Baby Junior spot is permanently mounted on front of each camera, to one side of and on a level with the lens. This serves as an effective fill light that eradicates any shadows intruding on a player's face.

Additionally, a bank of five PAR lamps is mounted on the platform of each crab dolly, just below the camera and facing the players. These throw fill light upward into the scene and toward the players to provide more rounded illumination and a further reduction of shadows.

It is Van Trees' responsibility to see that the lighting is proper for the two cameras at all times. That he achieves his objective is evident in the fact that the exposures of each camera are so consistently uniform, there is rarely more than one printer light difference between the two negatives.

The show is photographed on Eastman Double-X negative. "I use this faster film," said Van Trees, "not to save on lights but to enable me to use smaller lens stops to achieve sharp focus of players in both the foreground and background. The average working stop," he added, "is T-7.2 equivalent to about f 6.3."

Van Trees has been shooting the "Dobie Gillis" show for the past four years. Jim got his feet wet on the fast, two camera technique of TV film production about ten years ago when he was assigned to the "Mickey Rooney" and the "Joan Davis" television shows, which he photographed weekly. The Joan Davis segments were one-day productions with three cameras while the Rooney show was a three day operation using a single camera. Following this two shows weekly stint, he moved to "The People's Choice" and subsequently took over the photography of the "Burns and Allen Show," replacing Phil Tannura who withdrew from the show because of illness. His present assignment followed George Burns' decision to terminate the series.

The "Dobie Gillis" show is not the only TV series photographed with two

FLASHBACK TO YESTERYEAR

1914—Using a hand cranked Eclair camera, set low on a spread-legged tripod, Arthur Edeson, ASC, photographs scene at the old World Film Studio in Ft. Lee, New Jersey. The smooth, even illumination is pure daylight filtering through overhead scrims stretched across the open air stage.

Subject of the dramatic scene is baby Madge Evans (now a TV film player in Hollywood) crouching beside Ethel Clayton, one of the movies' early film stars. Lying on the floor beside camera and directing the scene is Harley Knowles. Others are unidentified.

Studying the photo and reminiscing recently, Edeson, now retired, said: "Those were the good old days of movie making when the cameraman did everything from loading film and shooting the picture to moving scenery and sweeping the stage."

CECO* professional jr.

Tripod with heavy duty grooved Tripod Legs

Standard Equipment for all Famous CECO Pro Jr. Tripod Heads

Pro Jr Tripod is better than ever with new Heavy Duty Grooved tripod leg design Assures greater rigidity, no matter how far legs are extended Heavy Duty Groove design guarantees herculean gripping power, because there's almost twice the gripping surface Modern, rounded leg shape adds strength and durability to the wood Comes equipped with indispensible double knob leg locks which assure equal pressure on each leg. Available with new ball joint swivel or standard base plate.

When you are looking for the best in a tripod, buy Professional Junior—*the tripod designed with the professional in mind!*

CECO Pro Jr. Friction Head with Ball Joint Swivel

Allows really fast, easy leveling without adjusting tripod legs Fits any Pro Jr Tripod with adapter base plate Has same exclusive features as standard Pro Jr Friction head . . . Pan & Tilt tension controls, accessible camera mounting knob, adjustable interchangeable telescoping pan handle. Skilfully designed and engineered for long dependable service. Unconditionally guaranteed—*the World's Standard of Tripod Quality!*

CECO Fluid Head

The tripod head with smooth-as-silk maneuverability Silicone fluid unaffected by extreme temperature range Won't dive in locked position Guaranteed leakproof *The undisputed performance champ!*

*CECO — trademark of Camera Equipment CO

CECO Ball Socket Swivel Joint Adeptar For Pro Jr. Tripod Heede

A one piece adapter which fits quickly, easily on to any Pro Jr Head For use on new swivel base tripod or standard Pro Jr tripod with ball socket adapter base plate.

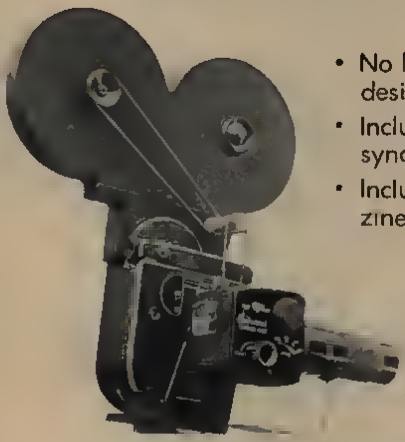
CAMERA EQUIPMENT CO., INC.

A SUBSIDIARY OF CECO INDUSTRIES INC

- NEW YORK, N. Y.
  315 West 43rd St. • JUdson 6-1420
- DIALEAD, FLORIDA
  51 East 10th Ave • TUxedo 8-4604
- HOLLYWOOD, CALIFORNIA
  6510 Santa Monica Blvd • HOllywood 9-8321

NEW! BOLEX 400 ft. CONVERSION NEW!

CONVERT YOUR BOLEX TO A 400-FT. CAPACITY CAMERA FOR SPORTS OR NEWS



- No loss of original Bolex design.
- Includes choice of wild or sync motor.
- Includes 400-ft. Magazine (Mitchell-type).

All For

$349.50

Installation $20 additional if desired.

Write For Pictures and Data Sheet

LLOYD'S CAMERA EXCHANGE

1612 North Cahuenga Boulevard • Hollywood 28, California

HOLLYWOOD'S 16MM HEADQUARTERS

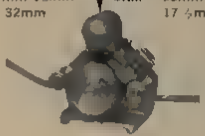
Moviola SOUND READERS

feature separate components, economy and flexibility

SOUND READERS

OPTICAL READERS
SRO — 35mm
SRO — 16mm
SRO — 35mm 16mm 35 32mm

MAGNETIC READERS
SRM — 35mm
SRM — 16mm
SRM — 35mm 16mm 17 ½mm ¼



SRC { OPTICAL — 35mm 16mm 35 32mm
MAGNETIC — 35mm 16mm 17½ mm ¼

Moviola's unique Sound Reader system is designed for versatility in filling the budget as well as the job.

Unlike single unit systems Moviola's separable components permit the purchase of only the pick up unit required to suit specific sound tracks. Additional equipment can be added — to accommodate new requirements.

Any Moviola pick up unit can be plugged into either of two Amplifier Speakers which can be conveniently placed to give desired sound reception and to allow maximum space in the working area.

AMPLIFIER-SPEAKERS

URS for normal use

UROM for superior sound quality

MOVIOLA SYNCHRONIZER — Sound Reader Adaptations

MS — 16 for 16mm track

MS — 35 for 35mm track

Moviola MANUFACTURING CO

1451 GORDON STREET • HOLLYWOOD • CALIFORNIA • HO 7-3178

cameras. There are others, of course. The key to shooting a show in this manner, Van Trees avers, is following the techniques that were developed in the mid-twenties during the advent of the "talkies." "I was with Warner Brothers when that studio began production of sound films," he relates. "They gave us seven cameras, each in a cumbersome sound-proof booth and placed strategically around the set. The idea was to capture the action in long, continuous takes, with the multiple cameras recording the necessary variety of cuts. The trick was to light sets so the illumination would be favorable to all the cameras. This entailed revolutionary techniques. There could be no lights on the floor, so we put them on top of the camera booths or in front of the booths below the window through which the scenes were shot."

Lighting became the most difficult part of photographing films in those days. It still poses troublesome problems when more than one camera is used in shooting scenes on the sound stage—each from a different angle. Any cinematographer who shot movies under those early-day sound restrictions, Van Trees observes, can easily handle a two camera set-up for television films. ■

16MM LECTURE FILM

Continued from Page 615

The doors also served as "wild" walls for our movie "sets." For long shots we opened the doors of several adjoining rooms, moved back and shot with a one inch lens. No wide-angle lenses were used at any time.

Another interesting sequence shows the boy's mother preparing the traditional Japanese bed of pads and comforters on the floor. We thought this would be of particular interest to American children. We also showed the mother firing up an *hibachi*, a metal urn with a charcoal fire.

To cut in with this footage we filmed our star doing his homework. This consisted of writing with a Japanese brush and ink and calculating on the Japanese version of the abacus. Here we worked in close with the camera to give American youngsters a clear picture of both actions.

We balanced these typically Japanese scenes with scenes of a baseball game, which Japanese boys play with a passion. Of course, we could not field two teams of nine men, but we did

show a shorthanded sandlot contest.

To capture as near as possible a complete picture of a typical Japanese schoolboy's life, we made arrangements to film sequences in a local school. The purpose here was to show American children that the boy's life was not all play and no school work.

In the school, extensive lighting on our slim budget was out of the question. After testing the available light in the school interiors with a meter it was evident we would need more lighting equipment or faster film. We decided on the latter and obtained a supply of high speed Ektachrome. With this film, we shot interiors with only the light coming through the windows, and with good results. After we were introduced to the class, the teacher went ahead with her regular lesson. We had promised not to interrupt. Because of the strict discipline in the country school, we did not have to worry about the youngsters staring into the camera lens. Whenever we shot a closeup of our star, we used a single 350-watt photoflood on a long extension cord for fill light.

Subsequent viewing of our work print showed that out of all our footage, very few shots were not usable. Our previous meter tests and the latitude of the fast Ektachrome film had combined to give us acceptable exposures.

For outdoor fill light I used three reflector boards covered with aluminum foil. These were handled by persons participating in or watching our filming. At different times we pressed the farmers and the schoolboys into service as grips for this work and it was gratifying the interest they displayed. By making the filming a sort of community project, we got the ultimate in cooperation wherever we went.

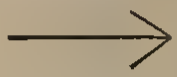
At one time, shooting was stalled rather suddenly. We had gone to a country location to finish an uncompleted sequence to discover that a woman who had appeared in the earlier shots had had her teeth extracted during the intervening week. And she refused to continue until her new choppers were delivered.

One of the most difficult but interesting sequences we filmed was an insect hunt. This is common sport for country boys in Japan. First we explained to the youngsters that they were to continue catching insects and not wait for us. Here, shooting was mainly "off the cuff."

Later, we showed our star in tight closeups inspecting his cage of insects. I felt that something was lacking and if we were to continue our policy of showing American youngsters plenty of closeups, we would have to get inside the cage. And this is virtually what we did.

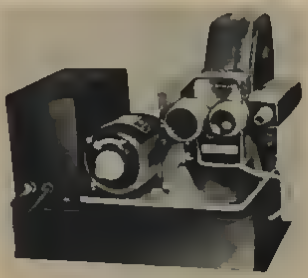
Through experimentation I discovered that I could use, with the aid of an adaptor ring, the 135mm Canon lens which I normally use on my Canon still camera. By unscrewing both the lens and the adaptor ring to the limit, we had in effect an extension tube. Here the reflex viewing system of the Bolex camera and Pellegrini's own Pellegrini-Pick magnifying viewer proved invaluable. To keep a particular insect fully framed in close-

What a difference . . .



AUTOMATED CINEMATOGRAPHY

The Lafayette Automatic Camera System, pictured at right, automatically photographs any desired subject or area at pre-determined intervals or when triggered manually. Designed to monitor warehouse and storage areas where pilferage is a problem, it is also adaptable to a wide range of industrial and scientific filming needs such as instrument and traffic monitoring, biological or construction progress reports, and stop-motion, time and motion, or memo-motion studies.



System operates with 16mm and some 8mm cameras to provide any number of photographs from 1 frame per day up to 3,000 frames per minute, according to time intervals and pre-set. System may also be triggered by electric eye or mechanical means, according to Lafayette Instrument Co., P.O. Box 57, Lafayette, Indiana.

up and in sharp focus we moved the cage by hand. The resulting shots were intercut with shots of the boy's eyes as he watched the insects with interest.

Early in our filming undertaking we arranged for our boy star, his father and a few friends to visit the Nikkatsu motion picture studio, one of Japan's largest. This gave them some knowledge of the mechanics of movie making. They also learned the importance of staying in place after each shot and not wandering off.

Finally, after the last scene was completed, we pieced together a rough cut of our work print, parts of which were in black-and-white and color, and staged a premier showing in the village of Onoji, Japan. It caused as much excitement as a Hollywood movie premiere, but there was one important exception. Most of the fifty spectators who crammed into our crowded theatre had worked in the picture and were seeing themselves on a movie screen for the first time. ■

KODACHROME II

Continued from Page 610

7383 is now well-established practice.

By comparison, Kodachrome II is a problem for the laboratory attempting to make reproductions on either 5269 or 7270 stock, according to Fred Scohey's report, which points out that this is due to two factors: Kodachrome II has low cyan contrast, and the duplicating stocks (5269 and 7270) are strongly sensitive in the red. Therefore, if Kodachrome II is duplicated under the same conditions as Ektachrome the result is a reproduction that is too reddish in tone or, to put it another way, does not contain enough cyan. To overcome this, the laboratory must use a special filter pack for reproducing Kodachrome II. The filter pack is "special" in that it differs from the Ektachrome filter pack.

It is obvious, therefore, that the laboratory must separate Kodachrome II footage from Ektachrome footage, carefully mark them for identity, and then use the proper filter in the printing of each. *The two films cannot be successfully reproduced if they are cut together in the same printing roll.* To properly reproduce them onto the same 5269 or 7270 raw stock, the Kodachrome II and the Ektachrome footage must be separated and made up into individual printing rolls to permit the

. . . a few years make

(We're growing, too. Our new plant, now being completed, will be fully operational soon.)

• Sound • Editorial
• Laboratory Services

Capital

CAPITAL FILM LABORATORIES INC
470 E. STREET, S.W.
WASHINGTON 24, D.C.
PHONE DISTRICT 7-1717

proper filtering in the duplicating step

Careful observations, says Scobey, indicate that acceptable reproductions can be made of Kodachrome II, properly filtered But, for better results, where reproductions are planned, the use of Ektachrome in the camera is advisable Since Kodachrome If is designed for direct projection, as stated earlier, its contrast is too high for satisfactory reproduction

Scobey concludes his report with the following recommendations.

1 If you plan to duplicate, shoot with one of the professional 16mm color film stocks intended for duplication.
2 If you need a print from exposed and processed Kodachrome II, edit the Kodachrome II footage together in a separate roll or rolls. In printing, the laboratory will use the required special corrective filter pack
3 Don't intercut Kodachrome II with another 16mm color film material ■

NEW PORTABLE CINEMA LIGHT

Continued from Page 609

ly with all zoom and wide-angle lenses, has a guide number of 20 with ASA 40 film, and a center beam candlepower of over 6500

The two other lamps that will be made available are the DWJ and DWG The DWJ is a 25° x 17° beam that matches the scope of the normal movie camera lens. The reduced beam allows a higher center beam candlepower and affords a guide number of 25 with an f/1.9 aperture and ASA 40 film Its center beam candlepower is 11 000

The DWG is a narrow spot of about 5° x 7° and produces over 100,000 center beam candlepower You might wonder why anyone would want a spot that narrow, but when you combine this with a telephoto lens you can shoot night action as far as 60 feet away with color and 120 feet with black-and-white. It is also useful for high-speed photography at close range. All three lamps have a color temperature rating of approximately 3400° K

LENS OPENINGS FOR SHOOTING AT 24 FPS

Distance, Light to subject	4'	6'	8'	10'	12'	16'	20'
ASA Film Speed							
40	f/4	f/3 0	f/2 0	1/1.5	f/1 4	f/1 0	
100	f/6.3	f/4 5	f/3 2	f/2 8	f/2.1	f/1 5	1/1 3
160	f/8	f/5 6	f/4 0	f/3 2	f/2 8	f/2 0	f/1 5
250	f/9	f/6 3	1/4 5	f/4	f/3 2	1/2 3	1/2 1

For shooting at 16 fps reduce lens opening ½ stop

Shooting with the Cinema Light fastened to the camera is sufficient for average recording purposes, but the lamp can easily he removed from the camera and becomes a much more versatile light source making possible a wide variety of effects and giving much greater control over what one can light and how it can be lighted. With one person to hold and aim the light under the direction of the person operating the camera, the versatility of this light source and the variety of effects that may be had is limited only by the imagination of the photographer

Separating the Cinema Light from camera is useful in a variety of ways for screen effect For instance, to film a person moving through an interior as if searching for something, the subject itself could carry the light. No matter how far away from the camera the subject got, the audience could easily follow the action and the lighting on subject would remain constant

Both professional and amateur movie makers can take advantage of one characteristic of the Cinema Light's tungsten filament lamp to produce smooth transitions from one scene to the next When the lamp is turned on it takes about a half-second to come up to full brightness, and when it is turned off it takes about the same time to begin to die out This short fading effect can be utilized in this way: when ready to begin filming the scene, start the camera and then turn the light on. Keep thumb on the switch When the scene is ended, turn the switch off and then stop the camera.

Additional statistics on the Cinema Light furnished by the manufacturer reveal that the complete unit has 64 individual parts and represents major contributions from nine separate component divisions of General Electric Company. More than 10,000 engineering man hours were devoted to the lamp's design and development. The lamp has a price tag of around $125.00 and is now generally available from camera stores and other photographic suppliers throughout the U.S. ●

NEWS *for* MITCHELL CAMERA OWNERS

FACTORY SERVICE DIVISION Mitchell cameras from Malaya, and Hollywood arrive daily, leave promptly in like-new-condition after complete, precision work by Mitchell craftsmen. Special sound test room, critical quality control, original factory parts, and speed of service guarantee your satisfaction

NEW MITCHELL VARI-STROKE CONTROL All new Mitchell Studio cameras are factory equipped with the new "Vari-Stroke control. Now it is available as a modification to *all* Mitchell NC and BNC cameras! Vari-Stroke control provides a convenient means for changing the attitude of the pull-down claw on the perforation, and in this manner reducing "film noise" due to changes in film dimensions, to a minimum! Only your old type *movement* is required Shipped Air Express prepaid, it will be "up-dated" and returned promptly

Write concerning your accessory and service requirements. For brochures -address the Sales Department.

MITCHELL
CAMERA CORPORATION
666 W HARVARD STREET • GLENDALE CALIF

AGENTS Mitchell Camera of New York, Inc
521 Fifth Avenue New York, New York

Vinten Mitchell Ltd-715 Na.Circular Rd
London N W 2 England

Nagase & Co Ltd
3 2 Choma Kobunacho
Nihonbashi, Chueku - Tokyo Japan

The Answer to Zoom & Telephoto Lens Tripod Problems!

Silicone Dampened
HYDROFLUID BALL-LEVELING
Pan & Tilthead Tripod

AN N.C.E. ORIGINAL IN TRIPOD STYLING AND PERFORMANCE

Larger Silicone Dampening Area than any Tripod in its class and price range

- Designed for professional cameramen
- Velvety smooth, jerk-proof pan and tilt action utilizing the dampening effect of silicone
- Sturdy aluminum construction; weight 21 lbs
- Silicone loaded—temperature range 130 + 500F
- Precision ball-bearings. Mounted on pan and tilt shaft for smooth action and alignment
- Pan 360°—Tilt 80°. For all cameras 40 lbs or less
- First tripod of its kind with ball-type leveling at bottom of base with positive lock at NO EXTRA CHARGE
- Tripod base of seasoned V type maple wood legs with self aligning leg locks

Positive quick finger camera lock — variable tension adjustment pan and tilt locks —spirit level—telescopic pan handle with variable angle adjustment—right or left hand position

"HYDROFLUID" TRIPOD FOR
TV Vidicon—T6 Mitchell—Maurer—Cameflex—Arriflex 16/35—Auricon (Cine Voice 600 1200) Cine Special—Eyemo—Filmo—Cineflex

PRICE WITH BASE **$369.50**

BABY TRIPOD	$89.50
HIGH HAT	$32.50
CASE	$35.50
BOOT & POINT COVER	$15.00

NATIONAL CINE EQUIPMENT, Inc.
209 WEST 48TH STREET, NEW YORK 36, N. Y. — Circle 6-0348
West Coast Sales: GORDON ENTERPRISES, No. Hollywood, Calif.—POpular 6-3725
Canadian Representative: ALEX CLARK, LTD., Islington, Ontario

This is the latest IMPROVED
CINEKAD JUNIOR DOLLY

Used Nationally by Discriminating Cameramen

This 3-Wheel Collapsible Dolly is especially designed to meet the demand for convenient mobility of cameras on location or in the studio

The new model instead of the 4" wheels is constructed with 5" heavy duty rubber-tired swivel wheels.

Write for more details and prices

CINEKAD ENGINEERING CO.
763 10th Ave., N.Y., N.Y., PLaza 7-3511

NEW IMPROVED PROCESS
LAMINATED SOUND STRIPING
THE Vitatone CO. 8MM—16MM 2½¢ per ft.
330 Ft. Minimum Order — Quality Guaranteed
Send for Free Brochure
7301½ SO. ATLANTIC BLVD., LOS ANGELES 22, CAL.

RESEARCH COUNCIL CRANE with MOTION PICTURE TABLE
NEW, IMMEDIATE DELIVERY.
WRITE FOR PRICE
NATIONAL CINE EQUIPMENT, INC.
209 W. 48th St., New York 36, N.Y.—Circle 6-0348

FIGHTING FIRE WITH FILM

Continued from Page 603

The films turned out by the unit fall into several distinct categories. About 80% of the total product is of a training nature, dealing with such subjects as: "Fire Apparatus Preparation," "Structures Fires," "Emergency Control of Natural Gas," "Hose Appliances," "Breathing Apparatus," "Brush Fires" etc. Then there are public interest and educational subjects made to acquaint the public with the work of the department and as an aid to fire prevention. Finally, there are on-the-spot, fast-breaking news story clips, released to the TV networks to document a fire that is currently raging.

The internal demands of the Los Angeles Fire Department itself have a general priority on film production within the unit. Later, many of these films are made available for general release through an outside distributor on a non profit basis. They are widely used by other fire departments and city governments throughout the world, and many of the films are available with sound tracks re-recorded in foreign languages for use abroad. The armed services use several of the films to train their personnel in fire fighting. The U.S. Navy has ordered as many as 225 prints at a time for such purposes. An informal check made several years ago revealed that films made by the Los Angeles Fire Department motion picture unit were being used in forty states. It is safe to assume that such use is even more widespread now.

One of the unit's outstanding films, which has won several national awards, is titled "Our Obligation" and was inspired by a disastrous Chicago school fire in which more than 100 lives were lost. With public interest in the avoidance of future such disasters running high, the Los Angeles School Board donated to the Fire Department for test purposes an abandoned school which was scheduled to be torn down because of structural weaknesses. Using this huge "set" as a background, the film unit staged a full-scale enactment of a school fire, showing how it might start, its effect on a teacher and thirty small children in her care, methods used to fight the fire and procedures for rescuing personnel trapped within the building.

The completed film is a thoroughly professional production having a

strong dramatic impact and a potent message. It won the "Best in Class" award in the national competition sponsored by Industrial Photography magazine, a bronze plaque from the National Safety Council, and a blue ribbon from the Educational Facilities Library in New York during the American Film Festival

Minimum Production Cost

Perhaps the most remarkable fact relating to the quality of the films turned out by the Los Angeles Fire Department film unit is that they are produced on an absolutely minimum budget, since the money is drawn from municipal funds. Budgets are barely sufficient to cover the cost of raw stock, processing and outside sound-recording services. The average cost for a full scale sound and color 16mm production runs less than $100.00 per finished screening minute.

Commenting on this striking paradox of low-cost and high-quality, Capt. Avery explains: "We are very conscious of the fact that we are spending the tax-payers' money, and for this reason we do the most and the best that we can within the limits of what we have to work with. Often this means having to use amateur methods to turn out a professional production—but that is where experience and background pay off."

The unit's camera equipment in-

WHY OPTICAL EFFECTS?

The film maker who uses optical effects to impress his audience has a good point: optical effects are professional. If they do nothing else, opticals take a film out of the 'home movie' class. Still, those who refuse to use opticals claiming they clutter up a film, have a point, too. Optical effects can distract an audience, shatter the illusion of reality.

But it's a rare film that runs from start to finish without changing subject. Here the intrusion of optical effects can be advantageous. Opticals can create a feeling of purposeful change—tell the audience that one piece of reality is coming to an end and another is about to begin, and imply a degree of subject change.

Optical effects may be considered subtle clues, introduced to prepare the audience for a change. The degree of this change can be indicated by the kind of optical effect used, and by its length. Fades create the most pronounced separation. Wipes a noticeable break, and dissolves a subtle change.

—"The Aperture"

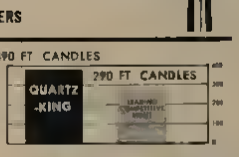
ColorTran INDUSTRIES INTRODUCES

the new QUARTZ-KING 650

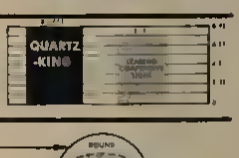
WITH PERFORMANCE SUPERIOR IN ALL RESPECTS TO ALL EXISTING COMPARABLE LIGHTS!

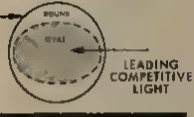
★ PROFESSIONAL QUARTZ-LIGHT
★ NO HOT SPOTS OR BANDING
★ SMOOTH, EVEN LIGHTING
★ DESIGNED FOR PROFESSIONAL USE
FOR TV, COMMERCIAL & CINE PHOTOGRAPHERS

GREATER INTENSITY / 390 FT. CANDLES AT 10 FT.
Using a 650 watt quartz iodine lamp operating directly from standard 110 volt household current in a medium flood housing, the QUARTZ KING produces more than 35% greater intensity than the leading competitive light. Intensity is maintained because the quartz lamp will not discolor and the reflector will never tarnish.



GREATER COVERAGE
An eight foot diameter of light, in excess of 160 foot-candles at 10 feet is produced by the medium flood reflector. Lighting is extremely smooth and even with no hot spots.





BETTER LIGHT PATTERN
The round light pattern of the QUARTZ KING is the result of superior reflector design, shape, texture and finish. Until now you never had so little for so much light!

All tests were made under controlled laboratory conditions with the stated Sylvania DWY 650 watt (3400 K) lamp 10 feet from lamp to test board. Line voltage maintained at 120 volts (constant) with variac and 1% precision voltmeter. Light measurements were made with a Weston Model 614 Foot Candle Meter.

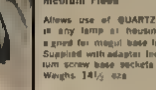
The QUARTZ KING reflector is so carefully manufactured that it is the only high performance reflector of its kind that is GUARANTEED FOR LIFE! If the reflector ever tarnishes, discolors or in any way loses its reflectance it will be immediately replaced by ColorTran free of charge.

THREE MODELS FOR EVERY LIGHTING APPLICATION

QUARTZ-KING 650
With Universal Yoke
Medium Flood
Specially designed yoke permits mounting on light stands, horizontal or vertical bars. ⅝-28 thread for tapped mounting. 240° vertical tilt. Adjustable for horizontal or vertical lamp orientation. Supplied with 10 ft. 3-wire heavy duty safety grounded cable with in-the-line switch and 3-to-2 prong adapter. Weighs 10 ¼ ozs.

QUARTZ-KING 650
With Integral Mogul Screw Base
Medium Flood
Allows use of QUARTZ KING in any lamp or housing designed for mogul base lamps. Supplied with adapter for standard screw base sockets. Weighs 14½ ozs.

QUARTZ-KING 650
With Integral Medium Screw Base
Wide Flood Only
Wider, more even light pattern than a scoop. Permits use of QUARTZ KING in any lamp or housing with medium screw (household) type socket. Almost any lighting fixture can be a source of high intensity photographic light. Weighs 14½ ozs.



ColorTran INDUSTRIES
630 SO. FLOWER STREET • BURBANK, CALIFORNIA • VI 9-5991

SAVE MONEY

When Filming In Europe By Renting Your Camera Equipment From

CHEVEREAU

PARIS, FRANCE

We Service The Entire Continent

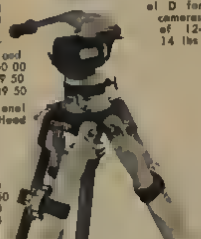
CAMERAS, including the Mitchell BFC 65mm
CRANES
DOLLIES

20 RUE DE LA CHINR
PARIS 20, FRANCR
Tels: MEN 8472 PYR 5104
Cable: Comeralec Paris

SMOOOOOOOTH

That s the word for Miller Fluid Action Tripod Heads It s because Miller Heads are true fluid Heads— the load rides on the fluid and all tension adjustments take place within the fluid chambers giving a velvety smoothness unmatched by any other tripod head — there is no slack, no bounce, no tack lash no leader Miller Fluid Action Tripods. Heads are available in two sizes — The Professional for cameras of 25-35 lbs The Model D for cameras of 12-14 lbs

Miller Model D Fluid Head with Ball Leveling Top Miller Grooved Leg Tripod
D Head $150 00
B/L Tripod 139 50
Total $289 50



Miller Professional Model Fluid Head with Ball Level ing Top, Miller Grooved Leg Tripod
Ball Lavelne Pro Head $299 50
Tripod 154 50
Total $454.00

For the finest possible combination, get the new Miller Grooved Leg Tripod with Ball Levelling Top These are the easiest and fastest levelling legs available coupled with the finest and most rigid tripods in the Junior class

At your dealer or order directly from

MILLER PROFESSIONAL EQUIPMENT
1619 No Cherokee Phone
Hollywood 28, Calif. HO 7-8189

cludes three Bell & Howell Model 70 DR's, a Bolex equipped with a Pan-Cinor 25mm-100mm zoom lens, a Cine Special (four lens turret model), an Arriflex 16 and an Auricon Cine-Voice single-system sound camera

While the earliest films made by the unit were shot in black-and white with single-system sound, now almost all of the work is done in color using double-system sound. Lip-sync filming is usually done in a commercial studio in Hollywood. Recording of wild-track narration and the processing of original, work print and release prints are contracted out to commercial vendors All narration is done professionally usually by radio and TV personality John Milton Kennedy, who has worked with the unit since its inception and who looks enough like a real fireman to appear convincingly on-camera in the uniform of a Captain.

All editing of picture and track is done "in-plant." Until a few years ago the only piece of equipment available for this exacting process was a Craig viewer, but now the unit has a modern Moviola with picture and sound heads to facilitate matters in the cutting room

Lighting equipment for interior shooting is limited to Colortran units which can be plugged in on house circuits, although the Los Angeles Dept of Water and Power occasionally cooperates by tapping power off one of its main lines when a large area is to be lighted Cameramen photographing an actual fire usually operate their cameras hand-held or with the aid of a shoulder-pod for greater mobility Two of the unit's vehicles are equipped with shooting platforms on top and there is also a portable platform which can be quickly assembled to provide a vantage point for shooting seven feet above the ground. In addition, a Fire Department helicopter is now available for use as an aerial camera dolly when it is not being used for command purposes.

The writing of scripts for the various productions is initiated in the several bureaus of the Los Angeles Fire Department having access to the film unit's facilities. Priority is determined by the Administration Office and then the particular bureau concerned is required to submit to the film unit a basic story outline or resume of the subject content to be covered in the film. From that point on, either Inspector Garns or Capt. Bob Patterson writes the actual shooting script with the aid of a technical advisor provided by the bureau The technical advisor, invariably an expert on the particular subject to be filmed, remains with the unit in a liaison capacity throughout the actual shooting.

The Fire Department often has donated to it for test purposes old buildings which are scheduled to be demolished for freeway clearance, extension of landing strips, etc The film unit takes advantage of these donations to stage action for its scheduled productions or those which might be contemplated in the near future. The "actors" in such films are always actual firemen doing the jobs they would normally do in a real situation. Casting is always done from the ranks—the unit calling upon whichever company is best suited to portray the situation at hand. The life's blood of production, however, is not the staged sequences, but the footage shot during actual fires

Of present and future aims of the Los Angeles Fire Department's Photographic Unit, Capt Avery says. "We are endeavoring, within the limits of our budget and equipment, to keep abreast of the times and continue to turn out a thoroughly professional result. We classify ourselves as professional cinematographers, even though we are primarily hired and paid as firemen We are assigned as photographic personnel and work the same as any in-plant film unit in that respect."

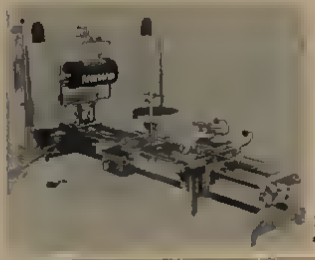
Day-for-night shots can be made to appear more realistic by introducing one or more natural light sources into the scene, such as lighted windows, a street lamp, automobile headlights, etc.

QUESTIONS INVITED

Need professional advice on a picture-making problem, about equipment, film or cinematography? Reader's questions are invited and will be answered by mail when accompanied by a stamped, addressed envelope for reply. Questions and answers considered of general interest to other readers will be published

Address your questions to the "Question & Answer Editor," American Cinematographer, P O. Box 2230, Hollywood 28, Calif

S.O.S. Titler & Special Effects Kit



Achieves unusual striking effects with ease and precision accuracy. Produces the widest range of titles, trick films, animation, three-dimensional titles, cartoons, etc., etc. Takes most any type camera, 16mm, 35mm, 8mm

MODEL TG II, 16mm	$199.50
MODEL TG III, 16mm	$249.50
MODEL TG IV, 16/35mm	$395.00

Write for descriptive brochure

OPTIONAL EQUIPMENT

Multi Purpose Frame for Special Effects	$24.95
Roller Drum for Horizontal or Vertical Revolving Effects	$21.95
Flip Attachment for Horizontal or Flip-flop Effects	$19.95

S.O.S. PHOTO-CINE-OPTICS, Inc. 602 West 52nd St., New York City 19—PLaza 7-0440
Western Branch 6331 Hollywood Blvd., Hollywood 28, Calif. 467 2144

FILMING FOR BERGMAN

Continued from Page 613

leisurely into the very special atmosphere which Ingmar Bergman builds up for each of his productions.

The collective discussions, such as we had that morning at Dalecarlia, were quite naturally followed by individual chats by Bergman with the various members of his team. The art director was asked to build a special test room in the studio; here the costume designer would test the various textiles to be used in the picture. The make-up man was asked to begin a series of screen tests to determine the suitability of certain characters and to study the results of different makeup materials. And when I returned to the studio, I commenced a series of tests of film emulsions we considered necessary for the photography of "The Silence."

The Story

In this production, two women and an eleven-year old boy arrive in a foreign city. They are depressed by a feeling of impending danger as in a dream, and are unable to communicate their fears because they do not speak nor understand the language.

When Bergman handed me the script, he explained the dream effect he wanted: "There must not be any of the old, hackneyed dream effects, such as visions in soft focus or dissolves. The film itself must have the character of a dream."

Bergman believes in photography having high contrast, so my preparations for this dream effect began with a series of experiments with different kinds of film emulsions. We were surprised to discover the strong graininess effect we obtained from our experiments with 16mm Ektachrome Commercial blown up to 35mm black-and-white. We also made photographic tests with ordinary sound recording film and with orthochromatic emulsions, and all these tests included the films of various manufacturers.

The conclusion reached through the tests was that each film and each laboratory method employed offered some of the advantages we sought. Our final decision was to shoot with Eastman Double-X negative and develop it to a higher than normal gamma.

A Passion For Light

When I started to work with Ingmar Bergman on "The Virgin Spring," I met a director having a passion for light—a passion for light and light effects similar to that of Alf Sjoberg, who directed "Miss Julie." Sometimes

TEWE **DIRECTOR'S FINDER**
from Birns & Sawyer — Hollywood

A MUST FOR CAMERA MAN AND DIRECTOR ALIKE!

Optical Zoom Finder shows exact lens field instantly! No guesswork for proper focal length, camera position or dolly shot!

2406 Model K, 16mm format range 8mm to 75mm $ 79.50
2618 35mm Model II, Range 25mm to 150mm 79.50
2611 35mm—TV/Image Orthicon TV scribed, Range 35 to 150mm 84.50
2615 35mm Cinemascope Model III adjustable mattes, format 1:1.85, 2.33, 2.55 129.50

Prices include case and chain. Insist on Original TEWE for quality
SEE YOUR DEALER, or write

BIRNS & SAWYER CINE EQUIPMENT COMPANY
6424 Santa Monica Boulevard • Los Angeles, Calif. • HOllywood 4-5166

FROM YOUR 12 VOLT CAR BATTERY
Rubylite **CLAMP-ON**

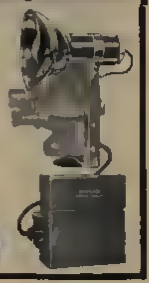
DELIVERS 250 WATTS of smooth, even 3400°K light—

$49.50

Rubylite
PORTABLE MOVIE LIGHT

Fits any camera. No tools needed, no holes to drill. Long life nickel-cadmium battery with built in charger weighs only 7 lbs. Guaranteed one year.

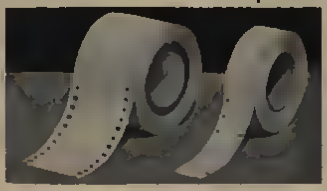
$199.50
COMPLETE WITH BATTERY



Write for Full Information

PHOTOMART
225 S. Franklin St., Tampa 2, Florida
Telephone 229-1166

S.O.S. MOVI*Mylar†



- MOVI* Mylar† polyester tape has tear strength 6x tri acetate film, yet is thinner.
- MOVI* Mylar† needs no messy glues, cements or solvents
- Any film base can be spliced with MOVI* Mylar† tape.
- Adhesives will not ooze or bleed at edges
- Conventional film cleaning agents will not loosen MOVI* Mylar† splices
- MOVI* Mylar† can be applied by hand with simple splicer
- COMES IN CLEAR OR WHITE, 16mm single or double perf. 17½ or 35mm

66 ft Rolls 16mm $ 6
66 ft Rolls 35mm $11

*S O S Trademark †DuPont Trademark

S.O.S. PHOTO-CINE-OPTICS, Inc.

Formerly S O S CINEMA SUPPLY CORP
602 West 52nd St., New York 19—Plaza 7 0440
Western Branch: 6331 Hollywood Blvd., Holly'd, Calif

PHOTO OPTICS "KNOW-HOW"

A COMPLETE "LENS BANK" SERVICE!

REPAIR — MODIFICATION and TESTING of PHOTO OPTICS

Whatever your PHOTO-OPTICAL problems . B & J provides **"OFF-THE-SHELF" ACTION! ALL WORK UNCONDITIONALLY GUARANTEED. OUR RESEARCH OPTICAL ASSEMBLY "Lens Bank"** offers **Cattimatian, Precision Grinding, Rigid Testing, Custom Mounting and Lens Coating** (LENSKOTE) — All speedily done by expert craftsmen to meet the specific requirements of such companies as Ford, RCA GE, AEC, etc

FREE — NEW PHOTO OPTICS 64th ANNUAL CATALOG

Burke & James, Inc
— ESTABLISHED 1897 —
321 S. WABASH, CHICAGO 4, ILL.

I have wondered if this passion is not the result of all the years they have spent as stage directors On the stage they had unlimited freedom to develop their ideas about lighting, and I believe this sharpened their instinct for pictorial lighting effects which both directors have displayed in their films

My own record as a cinematographer includes some forty feature-length films. I having started my work behind the camera at the age of eighteen. As I look back now in retrospect on all the tricky experiences I have had in filming forty features, I am sometimes appalled. I am reminded of effectively lighted spots and a swarm of double shadows on the set walls I see needless backlighting on a beautiful woman's hair, and big, exaggerated foregrounds—made only to create a great dramatic perspective in the picture In short, what I see is overworked pictures—pictures made only for the picture's sake

Ingmar Bergman and I promised each other, when we started with "The Virgin Spring," there would be no beauty effects. "Here," we reasoned, "we have a legend from the eleventh century. Let us tell it as realistically as possible" This we sincerely tried, with all the means available to us at the time—which was before the advent of Double X film.

After this first co-work with Bergman, I have met every new production as a new and interesting challenge, a chance to move a step forward The goal has always been the same: to keep it simple

When "Through a Mirror Darkly" was shot on the island of Gotland in the Baltic Sea, we traveled daily between the camps and the location in the early cloudy-gray light and we noticed how many fine, impressive graphic values were to be seen, and that whenever the sun broke through the overcast momentarily, how it instantly killed the many delicate shades of light, arresting the graphic play between highlights and subtle shadows. The tone we were aiming for in that production was a graphite tone—photography without extreme contrasts.

The next time, with "The Communicants," we went a step further We made systematic light studies, as we were curious as to the true sensitivity of the new Eastman Double X negative, which promised to enable us to achieve more and finer gradations

The story was to be enacted between noon and 3:00 P.M. on a typical cold and cloudy Nordic day in November, with sleet in the air. The picture was meant to be as shadowless as a cloudy day really is We traveled around Dalecarlia, looked over some thirty churches located around lake Siljan, and photographed each one inside and out Finally we chose Torsang church We then gave this church intensive study during the number of cloudy days that prevailed at that time—September, 1961—and we observed particularly how the light changed inside the church from hour to hour. We recorded with a Leica camera the interiors at various times of day as the pattern of the light traveled through the empty old church The resultant prints I pasted in my copy of the script, and they were of inestimable help to me later when lighting the set of the church interior, constructed on a studio sound stage

For "Through A Mirror Darkly," 250 scenes, representing a quarter of the production, were to be actually shot in the Nordic summer twilight. So we organized production work on the location thus: ordinary shooting was to be terminated daily at 3 P.M., at which time the twilight scenes were rehearsed for three hours so that all who were involved—actors, cameramen and technicians—were fully informed

IDENTIFYING E-K COLOR NEGATIVES

With the new Eastman Color Negative Film, Type 5251, now being exposed and processed, both the producer and the film laboratory should safeguard against possible printing problems, warns General Film Laboratories in the company's monthly publication, 'Rewind"

Eastman Kodak Company does not recommend intercutting 5251 color negative with 5250 reminds GFL, unless advance arrangements have been made with the laboratory While the two films are exposed in the camera and processed exactly the same, there is a difference in printing them

It is suggested that the producer avoid intercutting if he can and that where intercutting cannot be avoided, he discuss with the lab the procedures to be followed in editing and printing

The older Type 5250 Eastman Color negative is identified by the letter "C", which appears at the extreme left of the latent image footage marks on the film The new Type 5251 utilizes the letter "A" in place of the "C" in the same position on the film

MAJOR BREAKTHROUGH

IN SPRAY DEVELOPING

- DEVELOPS NEGATIVE FILM AT 35 FPM
- DEVELOPS POSITIVE FILM AT 60 FPM

The S-60 is Filmline's newest Spray Processor. It is a friction drive processor, *guaranteed* not to break or scratch film. Filmline's exclusive overdrive film transport system is so accurate it makes this guarantee possible. What's more film can be stalled 100% in spray chambers without altering footage. Absolute control of footage in each chamber insures sensitometric quality control and consistent development. And Filmline processors (unlike competitive makes) have lower film assemblies that are adjustable and remain captive in the position placed. Position of lower assemblies can be easily monitored and adjusted by indicator rods at the top of each chamber.

The S-60 is the specific answer to every laboratories need for a Spray Processor — because it outperforms machines costing twice as much. *Look into the Filmline S-60 — It Will Pay You.*

For the full story on the S-60 write today to:

Filmline CORPORATION
MILFORD, CONNECTICUT

Recent Filmline Installations:
- N. A. S. A. Huntsville, Ala
- Reeves Sound, N. Y. C.
- Thiokol Chemical Co.
- WHYN TV, KNDO TV, WFMY-TV
- More! Guarmement

Dept AO-62

new! FILMLINE S-60
16/35MM NEG/POS
SPRAY PROCESSOR

More Filmline Features
- Film chamber doors are completely removable for easy access to entire chamber (Not found in competitive models of similar class)
- Processing section is stainless steel
- Impingement dry box
- Precision temperature controls with indicating pilot lights for cooling & heating
- 316 Stainless steel pumps for developing & hypo solution
- Water temperature regulator
- Cool air squeegee
- Feed to take up elevators for continuous operation
- Replenishment flow meters
- Manual & automatic brake for film supply
- Automatic electrical torque motor take-up
- Variable drive with film speed tachometer
- Precision Thermometer & footage counter

as to what they were to do during the short ten minute shooting period that would be available to us in the twilight. Thus we worked daily for three weeks to photograph vital scenes during the brief twilight of Swedish summer nights. Usually, we were able to make an average of three different shots during the ten-minute twilight period. For "The Communicants," we were able to shoot for longer periods, thanks to Double X film which by now was available to us. If we had had this film when we photographed "Through A Mirror Darkly" we could have completely avoided the troublesome double shadows that resulted whenever an actor crossed a set. Now, with the faster film, we could achieve true, shadowless lighting with indirect light. For this, simple frames were constructed over which were stretched sheets of heavy waxed paper to diffuse the light. By thus eliminating all direct lighting, we created the natural shadowless aspect of a cold, frozen day in November.

As the main part of this story takes place in a church, the church interior was built at the studio. Even the ceiling was included and we had to rely

CAMART PRODUCTS

OPTICAL FX UNIT AND PRISMS

You've got to see it to believe it!

FOR 16mm—35mm—TV CAMERAS
LIVE TV, ANIMATION,
MOTION PICTURES

From two to seven images or combinations, more than 27 variations in optical effects, montages, and distortions without expensive opticals

Images may be photographed in still motion or forward and reverse rotation.

Complete unit consists of a four surface prism, mount, revolving housing and camera base assembly

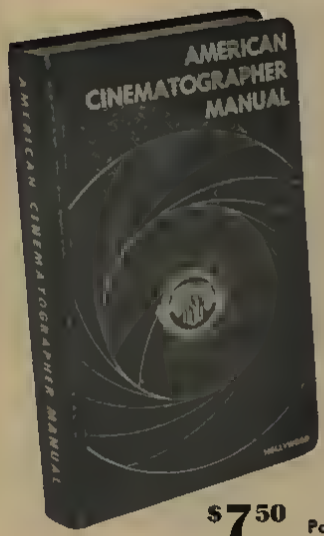
Literature on request

THE CAMERA • MART INC
1845 BROADWAY at 60th ST Phone: PLaza 7-6977
NEW YORK 23 N. Y. Cable Address: CAMERAMART

Why We Say--

"NEVER BEFORE A HELPFUL BOOK LIKE THIS!"

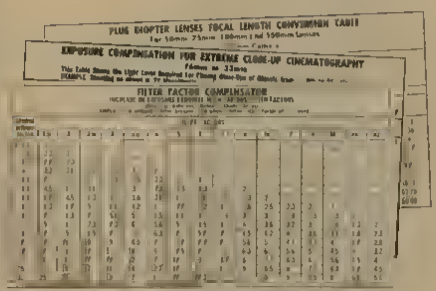
Where else can matian picture phatagraphers find the dependable answers ta the hundreds af prablems relating ta theatrical, televisian, industrial, scientific, military, educatianal and dacumentary matian picture praductian? Na ather baak presents in cancise charts and tables the carrect prafessianal answers ta phatagraphic prablems invalved in day-ta-day film praductian. Such infarmatian is easy ta lacate, and the Manual—canvenient packet-size—easy ta carry.



$7.50 Post Paid

There's something to help you on every page of this valuable fact-packed book!

- Illumination Data for both "boosted voltage" and standard studio lighting equipment together with foot candle, amperage and voltage tables and wiring diagrams.
- Data never before printed on: Panning Speeds, Optical Effects, Ultra High Speed, Underwater Cinematography, Make-Up, Background Plates, Process Scenes, Shooting Day-for-Night (color & B&W).
- Special Data on Exposure, Color, Illumination, Arctic and Tropic Cinematography, Infrared Film, Filters, etc.
- Tables for compensating Filter Factors, Shutter Angles, Camera Speeds.
- Many useful Camera, Lens, and Filming Formulas.
- Complete Data for Ultra Close-Up Cinematography with Extension Tubes, and Diopter Lenses
- Wide-Screen Processes, complete aperture and viewfinder dimensions for all aspect ratios for 65mm, 35mm and 16mm; squeezed and unsqueezed photography, single-and double-frame.
- Complete Lens Angle Data for all lenses for all aspect ratios.
- Film Threading Diagrams for all cameras.
- Detailed Listing of all Modern Professional Cameras 65mm, 35mm, and 16mm.
- Black-and-White and Color Film Data, together with ASA ratings, Identification, and Incident Light Readings for some.
- Up-to-Date Data on Lenses, Filters, Exposure and Color Temperature Meters.


PLUS DIOPTER LENSES FOCAL LENGTH CONVERSION CHART
EXPOSURE COMPENSATION FOR EXTREME CLOSE-UP CINEMATOGRAPHY
FILTER FACTOR COMPENSATOR

Charts, tables diagrams and drawings such as these give instant answers to problems relating to lens angles, filter factors, shutter openings, camera speeds, exposure, lighting, aspect ratios, etc., etc

MAIL COUPON *NOW!* ► ► ►

AMERICAN CINEMATOGRAPHER MANUAL
P.O. Box 2230, Hollywood 28, Calif.

Please send me ____ copies of the AMERICAN CINEMATOGRAPHER MANUAL

Payment enclosed_____ Please ship C.O.D._____

Name _____

Street & No. _____

City_____ Zone ____ State_____

**For orders mailed within California, please add 4% sales tax.*

ends on indirect lighting for photographic illumination of the set. When the final scenes were shot on location at Dalecarlia inside the actual church I realized how fully sensitive the new emulsion really was. The pictorial mood had to follow faithfully the gradual darkening of the day outside, and in one of the shots the only artificial light was from a huge seven-armed candelabra. Augmenting this was fill light from a few 500-watt lamps. With this illumination we achieved lighting in the scene that was highly realistic, simple and without effects.

I am grateful to Ingmar Bergman's scripts that his photographic goal always changes with each one. There is no possibility for his cameraman to just alter his ordinary routine lighting technique or to shoot production after production in the same manner. All easy-come effects must be sacrificed for the simplicity which does not disturb. Although public acclaim in cinematography often can be achieved by instantaneous effects, it is in the long run only the true light which is interesting and which I strive for more and more in my work.

You might say that the study of true, natural light as we actually find it in our daily lives, is a passion with me. For instance, there is a long narrow corridor outside our studio projection room, both ends of which lead out into the open. While sometimes waiting for the "dailies" to be projected, I sit and study how the daylight is spread out on the floors and the walls. Such reality is always around us, affording lessons in lighting technique if we have the patience and the time to observe it.

And who doesn't want to, with new and faster films constantly being made available to us, which enable us to achieve new and interesting graphic results on the screen? ■

TWO-CONTINENT ASSIGNMENT

Continued from Page 605

When the mid-west location filming was completed the cast and crew moved back to the sound stages of 20th Century Fox studios to film matching interiors and a few special-effects exteriors. The most spectacular set was a replica of the exterior of the hero's father's lakeside home as it had been photographed on location. The cottage was duplicated on the studio's Stage 8 inside a huge water tank to permit controlled filming of a violent storm sequence. The action shows the father, a doctor, leaving his home by canoe during a furious downpour to attend an Indian woman about to have a baby, and also his arrival at the Indian camp. Garmes sharply cross-lighted these scenes and adopted camera angles framed by silhouetted trees thrashing and bending in the foreground with the aid of wind machines in order to realize the fullest dramatic values of the action.

Responding to Hemingway's own dictate, "Use Verona and the countryside around Caprino where Nick Adams fought his war and was wounded," the company moved to these picturesque Italian locales and proceeded to film war sequences in the most realistic detail. Besides the hills of Caprino where the battle scenes were photographed several stately villas were used as important location sites. One of these, the Villa Carlotti at Illasi, provided settings for the war hospital scenes, it had actually served in that capacity during World War II.

One of the most trying sequences photographically speaking was filmed inside the lavish Villa Serenella San Pietro in Caramo. A large hallway flanked by windows was dressed to appear as a study, and Garmes placed amber colored gelatin sheets over the glass in order to equalize exposure and color temperature of the exterior landscape seen through the windows. However, ever-changing light and weather conditions outside made it a constant battle to maintain a consistent rendition of this exterior background from scene to scene.

Plagued again by murky light, cinematographer Garmes turned the prevailing bad weather into a distinct asset for a mood-filled photographic rendering of the Scaligeri Tombs, an ancient courtyard of massive sepulchres and brooding stone statues. Working to create a dramatically effective atmosphere of impending doom, he photographed the monolithic forms in somber light from angles that made them seem to threaten the ill-fated soldier and nurse walking in the courtyard below. He made similarly striking sym-

TV Stations & Newsmen!

TRANSIST-O-SOUND Lightweight AMPLIFIER

TWO CHANNEL self contained unit. Illuminated VU meter for night work. Wt. 3½ lbs. ... $350

This HIGH FIDELITY AMPLIFIER now used in over 100 TV stations and locations. Its Portability permits sound on film newsfilm where previously ONLY silent coverage was possible.

Write for brochure

S.O.S. PHOTO-CINE-OPTICS, Inc.

602 West 52nd St., New York 19—Plaza 7 0440
Western Branch: 6331 Hollywood Blvd., Hollywood, Calif.

26 YEARS OF QUALITY

REVERSAL PROCESSING

- Specialists in high speed or standard reversal processing
- Security clearance
- Free Vacuumating
- Films returned same day
- Customer extra service: Special prices on Eastman & du Pont Reversal Film

NATIONAL CINE LABORATORIES
WASHINGTON 17, D. C.

BRITELITE

Powerful long life nickel cadmium battery gives up to 30 minutes of light Can be recharged thousands of times

MODEL 110

Light weight small size Weighs 8 lbs and is only 2x8x8-inches Guide #45 with 200 film

Price $100 00

MODEL 130

Nickel-cadmium 30-volt power pack is supplied with Sun Gun head Also available with reflector head Weighs 11 lbs Size 2x6x6 inches Guide #90 with film speed of 200

Price $185 00

BRIGHT ELECTRONICS

1617 Market
Fort Worth 3, Texas

LINWOOD DUNN, ASC

Formerly head of RKO Studios Effects Dept.

CREATIVE SPECIAL EFFECTS

Complete Advisory and Technical Services
From Story Ideas to Theater Screen

LIQUID GATE PRINTING
FOR 16-35-65-70 MM BLOW-UPS
Specialized Laboratory Services

"Over 30 Years of Major Studio Experience"

FILM EFFECTS of Hollywood

1153 N Highland Ave, Hollywood 38, Calif
Phone HO 9-5808 Cable FILMFX

Automatic Daylight Processing

DEVELOPING TANK

- Processes up to 200 Ft
- 8mm-16mm-35mm-70mm
- Movie—X-Ray—Microfilm
- Motor-driven, portable
- Uniform Density Assured
- 400 Ft Tank Available

FILM DRYER

- Motor driven—Heated
- Speedy drying
- Automatic shrinkage allowance
- Stainless steel and aluminum construction
- Easily assembled without tools
- Compact, Portable

Guaranteed Write for Free Literature

Micro Record Corp. 487-14 South Ave Beacon, N Y

ASIA IS COVERED BY

FARKAS FILM COMPANY

424 LI PO CHUN BUILDING
HONG KONG

COMPLETE 16/MM & 35/MM PRODUCTION FACILITIES

holic use of the Tomb of Juliet and the Wishing Well referred to by Shakespeare in his play based on the tragic romance of Romeo and Juliet, two "star crossed" lovers who actually lived in a much earlier Verona.

The script called for two of the picture's most dramatic sequences to be filmed inside a church. Of the many places of worship abounding in Verona, Garmes selected the colorful old church of San Fermo, built in the fourteenth century — an edifice which he considers to be possibly the largest actual interior location ever photographed for a feature motion picture. The rear wall, 40 feet wide and 70 feet high, was at least 200 feet from the camera in the establishing shots, the intervening space being crowded with wounded war victims and their attending priests and medics. It required an entire week merely to light this vast set with extra lamp units and generators brought from Rome. The church itself was unheated, (winter services were held in a warm basement room below) and filming proceeded in bitter cold only slightly relieved by the heat from the set lamps.

The same numbing cold also hampered operations when the company improvised a sound stage in a large unheated quonset hut at the fair grounds of Verona. Inside this dank structure

Continued on Page 634

MOTOR DRIVE FOR 35MM ZOOM LENSES

PAUL KOONS operating remote monitoring control of his electric motor drive for zoom lenses, shown mounted on Mitchell camera, left of lens

MONITORING CONTROL, when pre-set determines the extent of forward or reverse action of zoom lens, its speed stops and starts Unit requires but 30 seconds to mount

PAUL KOONS, a camera assistant at Metro-Goldwyn-Mayer studios, demonstrates the electric motor drive with remote control which he has invented for zoom lenses Koons, with 20 years' photographic experience at M G M and presently assistant to Milton Krasner, ASC, claims his invention revolutionizes the entire zoom operation

Where previously zoom lenses required manual operation, Koon's invention—14 months in the developing stage—takes over complete control of the lens once it has been pre set to determine its forward and reverse speed, stops and starts

The unit includes its own battery power source and can be directed by remote control cable and monitoring switch at distances up to ten feet from the camera It is readily adaptable to both the Mitchell BNC and NC cameras and may be attached and made ready to operate in 30 seconds.

"It is mistake-proof, too," says Koons "After initial pre setting, it repeats its 'custom' operation for as many takes as desired without re setting."

The Koons zoom lens control has been successfully used in such recent M-G-M productions as "The Courtship of Eddie's Father" and "Take Me To The Fair." It is also adaptable to TV camera zoom lenses. ■

BUY, SELL, SWAP HERE!

Largest, Most Productive Classified Ad Section Of Any Publication Serving Makers Of Motion Pictures

STUDIO & PRODUCTION EQUIP.

FOR SALE in first class condition: 6 Senlare & stands, 2 MR Seniars & stands, 3 Sky Pans & stands 1 B 90 arc 2 170 stands, 20 100' 4/0 cable luge 1 cable reel, 6 four hale boxes 50', 1 four hale box 50', 1 six hale box 50', 1 four hale box 75', 2 three wire 50', four 2 wire extensions, 11 spiders, 5 Senior barndoors, 1 bull switch, 1 roll spunglass, 12 gator clips, 1 70 clear glass, 2 10K or 170 glasses, 1 5K & 2 1K dimmers, 2 three light strips, 1 Kohler model 3 5 R.M. 61 electric plant 12 Cine King lights & stands, 2 super kicker lights, 2 kicker lights, 2 Superior single lights, 2 Cinemaster chief converters 2 polecats, 9 new super globes R60 1000W, 22 Par 75 globes (new & used), 10 new 10K G96 globes 10 000W 15 new 5K G64 globes 5000W, 26 new 2K G48 globes 2000W 90 new RFL floods & spots, 24 photofloods #4 60 new photofloods #1 & 2, 2 used 10K 10,000W, 6 used 2K 2000W, 34 750W globes T24 (new & used), 1 1000W B P 4 1000W frosted Mogul, 7 1000W clear Mogul, diffusion all sizes & types, 200 or 300 Gelatine, all colors Assortment of spare parts, cable, carbon $6,500 00 cash price FOB Hollywood C & W RENTAL CO, Box 985, Hollywood, California POplar 2 5423.

125MM (5 inch) f/2 Schneider Xenon lens, coated, T stopped, in Arriflex mount, equal to new for only $275 00 25MM (1 inch) f/2 3 Bausch & Lomb Baltar lens, coated, in Mitchell mount, equal to new for only $165 00 Sold subject to ten day trial Box 1456, AMERICAN CINEMATOGRAPHER

WALL 35mm camera movements, $250 00; B&H 35mm 400' magazines, $35.00, B&H 35mm 1000' magazines, $95 00; Mitchell 35mm 400' magazines as NEW, $60 00, Mitchell 1000' Standard magazine, $95 00, Kinevox Automatic Slater, $450 00; Fastex Hi-Speed 35mm half frame camera, $750 00; B&H Super Hi Speed motor for 200 frames sec, $375 00 RCA 400 16mm Arc projector, sound & rectifier, $750 00; 16mm Strong Suprex 30 amp Hi Intensity arcs with rectifiers and interconnecting cables, BRAND NEW, $295 00, 35mm Background projector, blimped on dolly, B&H movement, Selsyn distributor, interlock camera motor, 225 amp Hi-Intensity arc complete, $7,950 00, Badde 15'x20' background screen, $300 00 J BURGI CONTNER ASC Blue Seal Sound Devices P O Box 472, New Canaan, Conn

CINE SPECIAL II with 15mm, 25mm, 152mm Ektor lenses, elec mtr, extra 100' & 200' chambers, reflex finder, filters & holders, carry case All like new, $1 875 00 FRAN McGINNIS WORDS & PICTURES 3802 Creelake, Birmingham, Mich

ARRIFLEX 35mm model II, $1,500 00, Canadian funds 28-50 85mm Xenon lenses, 4 200' magazines, tripod, case, battery 14 Tregellis, Downsview, Ontario

CINE-VOICE, 16mm Porrish conversion for 400' or 1200' magazines, with sync motor, NR-24 A7 noise reduc amplifier or reg Cine Voice amplifier Write for photos and prices FEATURETTE FILMS, Route 1, Calabasas, Calif, Phone Diamond 7-7474

EQUIPMENT WANTED

INSTANT CASH
HIGHEST PRICES PAID
for your used 16mm and 35mm professional equipment of any kind
URGENTLY NEED
ARRIS, ARICONS, MITCHELLS,
Zoom lenses, lab, editing lighting & recording equipment for our Rental Program
CONSIGNMENTS WELCOME
NEW—USED
RENT, BUY TRADE, REPAIR
HOLLYWOOD CAMERA COMPANY
6B3B SUNSET BLVD, HOLLYWOOD 2B CALIF

FOR THIRTY SIX YEARS WE'VE TRADED AND SOLD
Equipment new and equipment old
To serve our customers is our desire
Let us help you find a buyer.
CONSIGNMENTS TAKEN—SET YOUR PRICE
Ship it in—OUR PERCENTAGE IS SMALL
Wire us—Phone PL 7-0440
S.O.S. PHOTO-CINE-OPTICS, Inc.
Cable SOSOUNO
Dept. fc, 602 W 52nd Street, New York 19
Western Branch—6331 Hollywood Blvd.
Hollywood, Calif, Phone 467-2124

To Get Results

THERE IS NO SUBSTITUTE FOR ADVERTISING

If you are an experienced motion picture cameraman, film editor, sound recorder, etc., and you ARE AVAILABLE

. . . let potential employers know about it through a Classified Ad in

AMERICAN CINEMATOGRAPHER

Our classified ad rates ARE LOWER than for any other publication serving the makers of motion pictures.

EQUIPMENT WANTED

WHY SACRIFICE
your production and struggle with old or used equipment when we can trade for cash or new equipment? Let us know what you have and what you need
THE CAMERA MART, INC.
1845 Broadway PL 7 6977 New York 23 N Y

TRY F&B LAST
FOR THE HIGHEST QUOTE ON
USED MOVIE EQUIPMENT
FLORMAN & BABB
68 W 45th ST N Y 36, N Y

TRADES TAKEN
S.O.S. PHOTO-CINE-OPTICS, INC
Phone PL 7 0440 Cable SoSOUND
602 W 52nd Street, New York 19
Western Branch—6331 Hollywood Blvd.
Hollywood, California

WANTED TO BUY for Bell & Howell Standard Camera Unit 1 shuttle silenced, 110 volt synchronous motor, Compact Eyemo with lenses SAM ORLEANS FILM PRODUCTIONS, INC 211 West Cumberland Ave Knoxville 2, Tennessee

WANTED—USED: Two 400' magazines, one Tarque motor, one sound Barney for Arriflex 16 META INC, 236 East 14 Street New York 3, N Y

WANTED to buy all types of projection bulbs, spotlight bulbs ADVANCED SPOTLIGHT SERVICE, Box 206 Passaic, N J

WANTED MISCELLANEOUS

FILM ASSIGNMENTS wanted, Pacific Coast and Midwest Area for stock shots, process plates, etc. Top Hollywood cinematographers and equipment available WORLD WIDE FILMS, INC, 108 So LaJolla Ave, Hollywood 48 Calif. Phones: WE 9-8308 and OL 3-5072.

LABORATORY & SOUND

SOUND RECORDING at a reasonable cost High Fidelity 16 or 35. Quality guaranteed. Complete studio and laboratory services Color printing and lacquer coating ESCAR MOTION PICTURE SERVICE, INC., 7315 Carnegie Avenue, Cleveland 3, Ohio. Phone ENdicott 1-2707

SERVICES AVAILABLE

EUROPEAN assignments 16mm top American equipment. THOMAS d'HOSTE, 31 Avenue MacMahon, Paris 17, France In U.S.A.: 7617 Hollywood Boulevard, Hollywood, California In Canada 3261 Forest-Hill, Montreal, P Q

TITLES & OPTICALS for low budget productions 8/16/35mm service Samples and price list from ASSOCIATED CINETITLE SERVICES, 13204 Shaver, Baldwin Park, California

16mm FILM assignments—Chicago, Zeographic Scenic, Industrial ARLETTE STUDIO FILM PRODUCTIONS, 1657 Grace St, Chicago 13, Illinois. BI 8-8612.

Continued on Next Page

RATES: Ads set in lightface type, 15c per word Minimum ad, $2.00. Text set in lightface capital letters (except 1st word and advertiser's name) 20c per word Modified display format (text set in boldface type, capitals or upper and lower case) $1 50 per line. Send copy with remittance to cover payment to Editorial Office, American Cinematographer, 1782 No Orange Drive, Hollywood 28, Calif. Forms close 1st of month preceding date of issue.

Classified Ads

Continued from Preceding Page

SERVICES AVAILABLE

CAMERAMAN, age 38 AVAILABLE FOR OVERSEAS ASSIGNMENTS, ten years experience 16mm, 35mm and sound Is familiar through personal experience with most European Middle East and Scandinavian countries and can speak several of these languages Will travel anywhere Has own 16mm equipment EZEL SAYLAN, 75 18 197 St, Flushing, N Y SP 6 4254

AFRICA

Full 16mm equipment Arri Magnasync, etc. Experienced cameroman Complete safaris arranged for tourists or professional units. TRANS-AFRICA GUIDES, Box 9538, Nairobi, Kenya

EUROPEAN Assignments Worldwide experience in documentary, advertising and television film productions WORLD ALIVE FILMS, Willemsparkweg 207, The Netherlands

FILM ASSIGNMENTS, New York, Boston area scenic stock shots, industrial ACORN FILMS 168 W 46th St, N Y C Judson 6 2272

CAMERAMAN available for assignments Including UNDERWATER ROY CHEVERTON, 2625 N Ocean Blvd, Fort Lauderdale Fla

Notice To Subscribers

IF YOUR SUBSCRIPTION EXPIRES NOW

You'll save money by renewing same at once! American Cinematographer's subscription rates go to $5.00 per year (U.S., Canada, and Mexico), and the single copy price to 50¢, beginning with the January, 1963 issue.

Subscriptions renewed on or before December 30, 1962, will be accepted at the current rate — $4.00 per year; U.S., Canada and Mexico; $5.00 yearly, foreign and Pan-American Union. Use enclosed postage-paid subscription card for your renewal.

AMERICAN CINEMATOGRAPHER

1782 No Orange Drive
Hollywood 28, Calif.

2-CONTINENT ASSIGNMENT

Continued from Page 632

three sets were built: a hospital room, the interior of a barracks, and a rooftop terrace on which the lovers somehow managed to play a torrid love scene. So frigid was the air that the players had to hold ice in their mouths prior to each take so that their breath would not vaporize in the cold and add a discordant note to the scenes. While the adaptation of this church structure for settings for the film saved a costly move of the entire company to a sound stage in Rome 400 miles away, it presented numerous problems when it came to lighting it effectively for photography.

The battle sequences in this film, which were photographed in starkly rugged mountain terrain, have a graphic visual quality that creates a jolting impact of realism. In these sequences Garmes used no filters (except neutral densities) or other photographic frills, and the fluidity of his camera takes the spectator right into the heat of battle Here a helicopter was utilized as an aerial "dolly" to follow the action in one scene where the protagonist drives an ambulance onto the battlefield through a maze of exploding shells and land mines to rescue his commanding officer.

Another effective moving camera shot records a lengthy dialogue between two men riding in the cab of an ambulance on its way to the front. Ordinarily such a scene would be shot in the studio using a mock-up of the ambulance cab positioned in front of a process screen, on which a running background shot of the countryside would be projected. Rejecting this method in favor of a more realistic approach to the problem, Garmes had a platform built for the camera and mounted on the ambulance, extending over the hood and around on one side. On front of the platform a battery of small lights were mounted and operated from a portable generator, since the twisting road precluded the use of reflectors. The camera was mounted on the side of the platform to avoid the jumpy movement that would have resulted had photography been done from a separate camera car The actor in the scene actually drove the ambulance surrounded, as it was, by lights and camera equipment The result on the screen is an incredibly smooth "follow" shot over extremely rough terrain

Weather again dogged the company during the filming of the battle sequence. When these scenes were halfway completed a furious storm dumped a blanket of snow onto the previously bare countryside The resultant white landscape could in no way be made to match the scenes already shot The only alternative was to wait out the thaw which eventually set in and allowed filming to continue Throughout all of this foreign location shooting Garmes never saw any rushes or work prints of his work. However, he kept in constant contact by cable with the DeLuxe Film Laboratory to check the consistency of his photography.

Filming of "Adventures of a Young Man" marked the 46th year that Lee Garmes has spent photographing motion pictures A pioneer cinematographer regarded by his fellow craftsmen as an outstanding artist of the camera, he won an Academy Award for the photography of "Shanghai Express" (1932). Among his other impressive credits are "Gone With the Wind," "Duel in the Sun," "Specter of the Rose," "My Foolish Heart," "Land of the Pharaohs," "The Desperate Hours," and "The Big Fisherman" He is presently preparing to direct the photography of a multi-million dollar production of Victor Hugo's "Toilers of the Sea," to be filmed in ultra-Panavision on the Channel Isles of Guernsey and Jersey. ■

INDUSTRY NEWS

Continued from Page 534

ASC, has taken over assignment from Joe McDonald, ASC, of photographing the Harold Hecht production, "Flight From Ashiya" MacDonald was previously committed for another picture which required his immediate return to Hollywood. Following completion of shooting in Japan, company will move on to Rome and then Morocco for additional shooting

•

Panacolor For WB Release

Panacolor, Inc. Hollywood, will do the color release prints of Warner Brothers' "Valley of the Swords." New color print process, introduced in June, reportedly is first major breakthrough in motion picture color printing in more than fifty years, uses low cost B&W positive in the print process ■

INDEX TO ADVERTISERS

	Page
American Cinematographer Manual	630
Ansco	617
Arriflex Corp of America	606-607
Bach-Auricon, Inc.	587
Birns & Sawyer Cine Equip.	594, 627
Bright Electronics	632
Burke & James, Inc.	628
Byron	4th Cover
Camera Equipment Co., Inc.	585, 593, 619
Camera Mart, Inc	582, 584, 629
Capital Film Laboratories	621, 622
Chevereau	626
Cinekad Engineering Co.	624
ColorTron Industries	625
Dupont	579
Elgeet Optical Co .	588
Farbas Film Co	632
Film Effects of Hollywood	632
Filmline Corporation	629
Florman & Babb, Inc.	580
Jack Frost	612
General Film Labs	583
W J German, Inc	2nd Cover
Hollywood Film Company	614
LAB-TV	598
Lloyd's Camera Exchg	620
Magnasync Corp.	3rd Cover
Metal Masters	635
Micro-Record Corp.	632
Mitchell Camera Corp.	609, 623
Miller Professional Equipment	626
Mole-Richardson Company	616
Mole-Richardson European Service	599
Movielab Film Laboratories	589
Moviola Mfg. Co	620
National Cine Equipment, Inc.	624
National Cine Labs.	631
Novatech Corp.	586
Paillard, Inc.	590-591
Pathe Products, Inc.	595
Pellegrini-Piek	636
Photomart	627
Precision Laboratories	597
Professional Cine Prods.	636
Charles Ross, Inc	596
Samuelson Film Service, Ltd	594
S.O.S. Photo-Cine-Optics, Inc.	577, 594, 611, 627, 628, 631
Stevens Engineering Co.	635
Superior Bulk Film Co	635
Sylvania Lighting Prods.	581
Uhler Cine Machine Co.	635
Video Film Laboratories	616
Vicom, Inc.	578
Vitatone Co.	624

BEHIND THE CAMERAS

Continued from Page 594

PARAMOUNT STUDIOS

WILLIAM DANIELS, ASC, "Come Blow Your Horn" (E'T Prod.; P'Vision & Color) with Frank Sinatra and Tony Bill. Bud Yorkin, director

HASKELL BOGGS, ASC, WILLIAM WHITLEY, ASC, "Bonanza"*.

WILLIAM CLOTHIER, "Donovan's Reef" (John Ford Prod , Technicolor) with John Wayne and Lee Marvin. John Ford, producer-director

CHARLES LANG, ASC, "Paris When it Sizzles" (Color, shooting in Paris) with William Holden and Audrey Hepburn Richard Quine, director.

FRANK PHILLIPS, "Have Gun Will Travel"*.

PARAMOUNT STUDIOS—N.Y.

JACK HORTON, "Sport Shorts"*

PARAMOUNT SUNSET STUDIOS

FLEET SOUTHCOTT, "Gunsmoke"*

PATHE STUDIOS—N.Y.

CAYNE RESCHER, ASC, "The Nurses"*.

PRODUCERS STUDIO, INC.

EMMET BERGHOLZ, "Death Valley Days"*

PRODUCTION CENTER STUDIOS—N.Y.

WILLIAM STEINER, ASC, "Two Tickets to Paris" (Harry Romm—Columbia Pictures) with Gery Crosby and Joey Dee. Greg Carrison, director.

REPUBLIC STUDIOS

WILFRID CLINE, ASC, 'Saints and Sinners"*.

HOWARD SCHWARTZ, "The Rifleman"*.

GEORGE DISKANT, ASC, "Dick Powell Show"*.

REVUE STUDIOS

JOSEPH MACDONALD, ASC, "The List of Adrian Messenger" (Joel Prod . shooting in England) with George C Scott and Dana

Wynter John Huston, director.

ELLIS CARTER, ASC, "The Iron Collar" with Audie Murphy and Kathleen Crowley. R. G Springsteen, director

JOHN RUSSELL, ASC, "Challenge Colf"*. "Alfred Hitchcock Presents"*

ELLIS THACKERY, ASC, JOHN RUSSELL, ASC, "McHale's Navy"*.

WALTER STRENGE, ASC, "Wide Country"*.

WILLIAM MARGULIES, ASC, BENJAMIN KLINE, ASC, LIONEL LINDON, ASC, (Alcan Theatre"*.

RAY RENNAHAN, ASC, "Laramie"*.

JACK MACKENZIE, ASC, "Leave it to Beaver"*.

ELLIS THACKERY, ASC, 'Wagon Train"*.

LIONEL LINDON, ASC, ELLIS THACKERY, ASC, "The Virginian"*.

WILLIAM MARGULIES, ASC, "The Best Years"*.

JOHN WARREN, ASC, "Going My Way"*.

CLIFFORD STINE, ASC, "Three on a Match" (Color) with Kirk Douglas and Mitzie Gaynor. Michael Gordon, director.

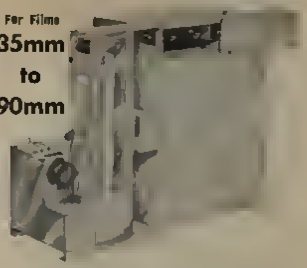
RUSSELL HARLAN, ASC, "A Gathering of Eagles" with Rock Hudson and Mary Peach. Delbert Mann, director.

RAY FLIN, "It's a Man's World"*.

HARRY WAXMAN, "Lancelot and Guinevere" (Emblem Films Prod.; P'Vision & Color;

Continued on Next Page

For Films 35mm to 90mm



WIDE FILM PROCESSOR

Over and under pull through type with special design rollers which touch edge of film only. Quick threading Impingement dryer Variable speed 0 to 25 ft per minute

For Full Specifications Write To

METAL MASTERS

5599 University Ave , San Diego, Calif

U. C. M.

for

MOTION PICTURE PRINTERS

at

UHLER CINE MACHINE CO.

15762 Wyoming Avenue, Detroit 38, Mich.

Phone: UNiversity 1-4663 • Cable UHLCIMA

L & F PORTABLE CINE PROCESSOR

• Fully Automatic • Daylight Operating

$675.00 (f.o.b. Chicago)

- 16mm or 8/8mm
- Requires no plumbing
- Process 200 Ft B&W Film In Less Than 1 Hour
- Reversal Processing
- Less Than 1 Gallon of Solution Needed
- 32"x9"x24"! 55 lbs!

Write For Descriptive Literature

SUPERIOR BULK FILM CO.

446-48 N Wells • Chicago 10, Illinois

BOLEX ACCESSORIES

By STEVENS

SYNCHRONOUS CAMERA DRIVE

115-volt Bodine Motor 24-Frame Lip-Sync Speed Complete with Safety Clutch, Camera Mounting Base, Forward-Reverse Controls, Condenser, 10-Ft Cable

Special $150

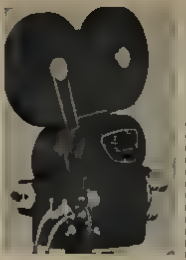
Write for our Bolex Accessory Catalog

STEVENS ENGINEERING CO.

Dept "A", 340 N Newport Blvd.

Newport Beach, Calif

400- and 1200-foot Conversions



FINEST conversion on the market today. Convert your Auricon Cine-Voice or Pro to a fine camera that will handle full 400 feet of film with perfect jam-free, wow free operation. Includes Veeder-Root footage counter, filter slot and holders, phone jack in camera and complete refinishing

Quick Service . . . Finest Workmanship . . .
Mitchell or Bell & Howell Magazines
Write for Pictures and Complete Details
GORDON YOBER
PROFESSIONAL CINE PRODUCTS
2222 N Prairie Ave., Dallas 4, Texas
Phone Lakeside 1-2672

VARIABLE SHUTTERS AND YOLO AUTOMATIC DISSOLVE ATTACHMENTS FOR ALL BOLEX H CAMERAS ALSO DUAL POWER MAGNIFIERS FOR THE BOLEX REFLEX

PELLEGRINI-PIEK
7 COLEMAN PLACE
MENLO PARK, CAL

REPRINTS
of the 6 page, illustrated article
SPECIAL PHOTOGRAPHIC EFFECTS IN MOTION PICTURES
25c
Per Copy
AMERICAN CINEMATOGRAPHER
1782 No. Orange Dr., Hollywood 28, Calif

AMERICA'S GREATEST ASSET*

America itself was an idea and, through ideas, rose to leadership in industry, science and world affairs. But shortages threaten our fountain of ideas—higher education. Colleges need more facilities and top-notch teachers. College is America's best friend. Give to the college of your choice.

***IDEAS**

If you want to know what the college crisis means to you, write for a free booklet to: HIGHER EDUCATION, Box 36, Times Square Station, New York 36, N. Y.

Published as a public service in cooperation with The Advertising Council.

shooting in Yugoslavia) with Cornel Wilde and Jean Wallace. Cornel Wilde, director.

JOHN WARREN, ASC, "Going my Way"*.

ERNEST LASZLO, ASC, "It's A Mad, Mad, Mad, Mad World" (P'Vision Technicolor, Stanley Kramer Prods.) with Spencer Tracy and Milton Berle. Stanley Kramer, producer-director.

WARNER BROS.

HASKELL WEXLER, "America, America" (Athena Ents. Corp. Prod.; shooting in Athens) with Stathis Giallelis, Elia Kazan, producer-director.

HAROLD STINE, ASC, RALPH WOOLSEY, ASC, ROBERT HOFFMAN, "Hawaiian Eye"*.

BURT GLENNON, LEWIS JENNINGS, "Cheyenne"*

ROBERT HOFFMAN, HAROLD STINE, ASC, "77 Sunset Strip"*.

BURT GLENNON, "The Dakotas"*.

CARL GUTHRIE, ASC, "True"*, Commercials*

ERNEST HALLER, ASC, "What Ever Happened to Baby Jane?" (Seven Arts-Associates & Aldrich Prod.) with Bette Davis and Joan Crawford. Robert Aldrich, producer-director.

JACK MARQUETTE, "Gallant Men"*

ROBERT SURTEES, ASC, "PT 109" (P'Vision, color, shooting in Florida) with Cliff Robertson and Ty Hardin. Lewis Milestone, director.

MARK DAVIS, ASC, "PT 109" Second Unit.

CHARLES LAWTON, ASC, "Spencer's Mountain" (Technicolor) with Henry Fonda and Maureen O'Hara. Delmer Daves, producer-director.

HARRY STRADLING, ASC, "Not on your Life!" (Belgrave Ents. Prod.; Technicolor & P'Vision, shooting in Greece) with Robert Preston and Tony Randall. Morton DaCosta, producer-director.

ZIV-UNITED ARTISTS

MONROE ASKINS, "Ripcord"*.

CAMERA AS TECHNOLOGICAL AID

IT HAS REMAINED for the burgeoning fields of science and technology to unshackle the motion picture camera from the rather narrow confines of entertainment film production and enable it to demonstrate its value and versatility in countless ways in this dizzy, progressive era we call the "space age."

Pictured above is a new and interesting application of the motion picture camera, in which it records the scene and all objects within it as scanned by the mobile infrared tracker on which it is mounted (top of photo). The camera makes a photographic record of all objects appearing in the common field of view to later indicate the accuracy of tracking and assist in data interpretation.

The tracker, designed and built by Barnes Engineering Company, Stamford, Conn., when aimed at low-flying aircraft, can monitor its target with an accuracy of better than 1/10 milliradian and provide an accurate record of its performance during hold patterns, approach, landing and takeoff. Such information, say Barnes engineers, may be used to develop new instrumentation for improved air traffic control and safety. ■

*HOW TO SELECT A RECORDER to start your Magnasync-Magnaphonic Sound System

MAGNASYNC / Magnaphonic SOUND SYSTEM

Sound Equipment Checklist

		SPLIT 16 MM FILM	16 MM FILM	17½ MM FILM	35 MM FILM	35 MM MAG	FOOTAGE COUNTER	POWER REWIND	MONITOR SPEAKER	TORQUE MOTORS	SINGLE PHASE	FREQUENCY CONTROL	SLIDE WIRE POTS	AUTO REWIND	SYNCHRONOUS MOTOR	PLAYBACK HEADS	STEREO HEADS
Nomad MARK I	A versatile 7-lb professional quality recorder/reproducer all transistorized and positively sprocket-hole interlocked with your 16mm camera or projector CANNOT GET OUT OF SYNC! Can be hand held or tripod mounted Wide selection of accessories available **Basic System $675.**																
Nomad MARK II	The 12-lb featherweight Mark II, a professional double-system recorder/reproducer is completely transistorized, self-contained and highly reliable with maximum recording qualities and operating economy Power consumption is only 20 watts **From $885**					X	X								X	X	OPTIONAL
X 400	When lightweight portability is a must the 27 lb. X 400 Type 1 is the answer! Another reason so many producers choose this machine is that it is genuinely professional, and yet, surprisingly economical! **From $885**		X				OPTIONAL	OPTIONAL	OPTIONAL						X	X	OPTIONAL
TYPE 1	The Type 1 is a miniaturized version of the Type 5 Low power consumption and extreme portability has made this 39-lb unit a popular selection for remote location production by leading professional motion picture studios **From $1430**		X	X			X	X	X	OPTIONAL		X			X	X	OPTIONAL
TYPE 15	The X-400 Type 15 is designed for the man who wants everything in one case . . . playback amplifier, monitor speaker, footage counter and torque motors You can be proud to have this machine represent you on any sound stage! **From $1385**		X				X	X	X	X	X				X	X	OPTIONAL
TYPE 5	The most popular magnetic film recorder in the world is the Type 5! With this unit and all its operational conveniences you are definitely in the "major league" The Type 5 owner always starts his pictures with a special feeling of confidence in the realization that he has allowed no compromise in the selection of equipment. **From $1850.**		X	X	X	X	X	X	X	X	X				X	X	OPTIONAL	OPTIONAL
MARK IX	There is nothing on the market that compares with the remarkable Mark IX This unit is in a class by itself . . . with push-button remote controlled relay functions plug-in audio elements and all the "extras" that make for flawless recording under the most adverse conditions **From $2145.**		X	X	X	X	X	X	OPTIONAL	X	X	X	OPTIONAL		X	X	X

*Regardless of the model you select, you can always depend upon equipment with the "Magnasync-Magnaphonic" label . . . equipment made by the international leaders in the design and manufacture of quality magnetic film recording systems

Write, wire or phone

MAGNASYNC CORPORATION

5546 Satsuma, Ave., North Hollywood, Calif.
TRiangle 7-0365 • Cable "MAGNASYNC"

Authorized Dealers

CHICAGO, ILL.
Behrend Cine Corp
161 E Grand MI 2-2281
Zenith Cinema Service Inc
3252 Foster IR 8-2104
DAYTON OHIO
Salem Camera Co
335 Salem BA 3-7206
DENVER COL.
Western Cine Service Inc
312 S Pearl, SH 4-1017
HIALEAH, FLA
Camera Equipment Co , Inc
1335 E 10th, TU 8-4064
HOLLYWOOD, CALIF
Birns & Sawyer Cine Equipment
6424 Santa Monica HO 4-5166
Camera Equipment Co , Inc
6510 Santa Monica HO 5-5118
S O S Photo-Cine Optics, Inc
6331 Hollywood, NO 7 9202
KANSAS CITY, MO
Bernards, 4724 Broadway,
Country Club Plaza LO 1 7761
Crick's Camera Shop
6320 Brookside Plaza, NI 4-3390
MINNEAPOLIS, MINN.
Century Camera Shops, Inc.
26 S. 7th, FE 8-5857
NEW YORK CITY
Camera Equipment Co , Inc
315 W 43rd JU 6 1420
Florman & Babb Inc.
68 W 45th MU 2-2928
Pictronics Corporation
236 E 46th YU 6-3713
S.O.S Photo-Cine-Optics Inc
602 W 52nd, PL 7-0440
PHOENIX. ARIZ.
Wilson Camera Sales Co
130 W Adams AL 4-0662
ST LOUIS, MO.
Stanley Photo Service
106 N Broadway, CE 1-7840
SAN FRANCISCO CALIF.
Brooks Cameras, Inc
45 Kearny EX 2-1902
SAN MATEO, CALIF.
Foremen's
121 Fourth Ave , OI 3-1868

SOUTH AFRICA
Photo Agencies Pty Ltd
9 Kerk St Johannesburg
ARGENTINA, Buenos Aires
Estudios Ion S.R.L.
Diaz Velez, 3881
AUSTRALIA, Sydney
Sixteen Millimetre
Australia Pty Ltd
49 Markel, New South Wales
BOLIVIA, La Paz
Casa Kavlin
Casilla 500, Calle Potosi 261 263
BRAZIL, Rio de Janeiro
Mesbla, S.A.
Rua da Passeio 42/56
BURMA, Rangoon
G.K Theatre Supply Co , Ltd
57 Lewis Street
CANADA, Islington, Ontario
Alex L. Clark, Ltd
3751 Bloor St , W
DENMARK, Copenhagen CNL
Kinovex Electric Corp
Jonsleusvej 2
ENGLAND, London
Ostano Lea Procanses, Ltd.
12 Moor St , (W.1)
Gordon Cameras, Ltd
45 Kensington High, (W-8)
FRANCE, Paris
Brochliss-Simplex S.A.
6 Rue Guillaume Tell
GERMANY, Hilden Dusseldorf
Gerhard Johansen
3 Lessingstrasse
GREECE, Athens
Christos Axarlis
50 Stadium St
INDIA, Bombay
Kine Engineers
26, New Queen's Road
ITALY, Rome
Repertilm, di J M Schuller
Via Antonio Bertolini 31
JAPAN, Tokyo
J Osawa & Co , Ltd
5 Ginza Nishi 2 Chrome, Chuo ku
NEW ZEALAND, Auckland
Kerridge Odeon Industries
St James Building Queen St
PAKISTAN, Karachi-3
Film Factors, Ltd
27 Victoria Rd , Ran Annene
SOUTH RODESIA, Salisbury
William Over & Co Pvt Ltd
Kingsway & Monica Rand
THAILAND Sailwong, Hongkok
G Simon Radio Co Ltd
30 Petpong Avenue

complete ONE STOP services for film producers!

byron

UNDER ONE ROOF...

in one convenient location. Write, phone or wire for information and quotations on any and all producer services.

studio services:

Editorial

Creative Editing
Dialogue Cutting
Music Cutting
Conforming
Preparation of A&B Rolls
Hot Splicing
Syncing
Cutting Room Rental

Art

Storyboards
Graphic Art
Cartoons
Hand-lettered Titles
Hot Press Titles
Title and Animation Photography

Music

Optical Film, 35mm
Magnetic Film, 35, 17½ & 16mm, ¼-inch Tape
Disc, 33⅓ & 78
Sound Effects

Sound Recording

Location Recording
Narration
Music Recording
Post-dubbing
Re-recording
Mixing
Transfer
Interlocks
Facilities Include Optical and Magnetic 35, 17½ & 16mm, ¼-inch Sync Tape

Screening

16mm Projection
35mm Projection
Interlocks

laboratory services:

Developing Processes

COLOR:
Negative EK 16mm
Positive EK 16mm
Ektachrome 16mm*
Kodachrome 16mm*
Ansco 16mm*
**Processed by film manufacturers' local plant*

BLACK AND WHITE:
Spray Picture Negative, 16 & 35mm
Spray Sound Negative, 16 & 35mm
Newsreel Negative, 16mm
Spray Picture Positive, 16 & 35mm
Immersion Positive, 16mm
Reversal, 16mm

Printing

COLOR:
Kodachrome, 16mm
Ansco, 16mm
EK Internegative, 16mm
EK Positive, 16mm
Reduction, 16mm
Blow-ups, 35mm
Optical, 16mm
Workprint, 16mm
Masters, 16mm
Answer Prints, 16mm
Release Prints, 16mm

BLACK AND WHITE:
Dupe Negative, 16 & 35mm
Master Positive, 16 & 35mm
Reversal, 16mm
Reduction, 16mm
Blow-ups, 35mm
Optical, 16mm
Track Prints, 16 & 35mm
Work Prints, 16 & 35mm
Answer Prints, 16 & 35mm
Release Prints, 16 & 35mm
TV Spots, 16 & 35mm

Miscellaneous

Edgenumbering
Print Cleaning
Peerless Treatment
Magnetic Striping
Reels
Cans
Shipping Cases

byron / motion pictures

1226 Wisconsin Ave., N.W., Washington 7, D.C., FEderal 3-4000

Affiliated with MECCA FILM LABORATORIES CORP., 630 Ninth Avenue, New York 36, N.Y.